UNIVERSITY OF PENNSYLVANIA

THE RELATION BETWEEN CERTAIN POPULATION CHANGES AND THE PHYSICAL ENVIRONMENT IN HAMPDEN, HAMPSHIRE, AND FRANKLIN COUNTIES, MASSACHUSETTS, 1790-1925

LESTER EARL KLIMM

A THESIS

IN GEOGRAPHY

PRESENTED TO THE FACULTY OF THE GRADUATE SCHOOL IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

PHILADELPHIA
1933

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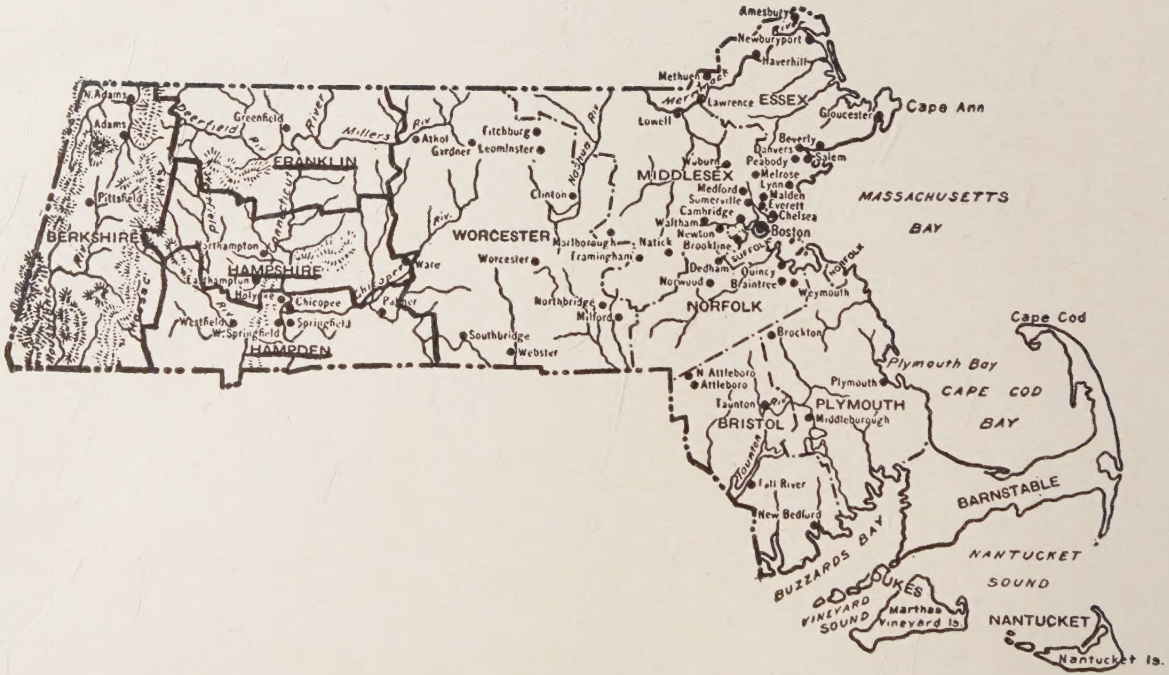

FIG. I. Map Showing Location of Hampden, Hampshire and Franklin Counties, Mass.

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PREFACE

"The last decade has been notable for the growth of 'New England Consciousness.' Committees, councils, conferences, surveys, have been organized, and countless editorials written to stimulate a larger conception of the unity of New England, of the interdependence of its parts. . . .[1] Thus writes a recent author in describing a contemplated study of population changes in New England. This "New England Consciousness" is an outgrowth of a series of changes which have seriously shaken the social and economic life of the region.

Some of these changes have been going on for upward of a hundred years. This is especially true of the movement of population from the hill farms to the West and to the cities, and from agriculture to manufacture. Others, such as the influx of southern and eastern Europeans, are relatively new.

It has seemed to the writer that an intensive study of the changes in the number, occupations and origins of population in Hampden, Hampshire and Franklin Counties, Massachusetts, and the relation of these changes to the physical nature of the region might make some small contribution to an understanding of the causes for the changes in New England as a whole.

The writer has an especial interest in and knowledge of this region because of family connections in many parts of it and the fact that he has lived in and travelled over all parts of it intermittently for a period of twenty-five years. Extensive field work was carried on in the summer of 1929 to recheck observations and conclusions arrived at in the course of the statistical and documentary studies.

The region included in these three counties has had considerable diversity of population phenomena and, although not large in area, contains within its borders such a wide variety of topographic and soil conditions and diversity of industries that it is a fair sample

[1] Wright, J. K., "The New England Study," *Geographic Review*, July 1929, pp. 483–484.

of interior New England in general. Only with respect to climate does it fail to be typical as its small area and relatively low altitudes remove the possibility of any great climatic variety.

It stretches north and south across the entire width of Massachusetts in the western part of the State and contains 1887.7 square miles. The Connecticut River flows from north to south through the center of the region, occupying a broad alluvial valley. In this valley are important manufacturing cities such as Springfield, Holyoke, Chicopee, and others, and rich agricultural towns such as Hadley, Hatfield, Whately and Sunderland. On either side of the valley, the land rises sharply to the rough uplands of central and western Massachusetts. The towns of these uplands are declining in population, in agriculture and in manufacturing. Some of these towns had four times as many people living in them in 1800 as they did in 1925.

The historical age of the region also makes it an interesting subject for a study of the relationship between population changes and physical environment. It has been known and settled for nearly three hundred years. Its physical conditions have become fully known and population has had an opportunity to make a wide variety of adjustments to these conditions.

The state of records with regard to this area is also an asset. For most towns in these counties, population figures go back to the Provincial Censuses of 1765 and 1776. The United States Census takes up the story in 1790 and from then on its record is available for every decade. From 1855 to 1925 the Commonwealth of Massachusetts took a census every ten years. Thus since 1855 there exists a record of the changes by five-year periods instead of for the ten-year periods which, for most regions, are the only records available. From 1875 to 1915, the Census of the Commonwealth made available a much wider range of population information than was obtainable from the Federal Census.

In its very essence, such a study is geographic. Webster's "New International Dictionary" defines *human,* or *anthropo-*geography as follows:

> "*Biological geography,* or *bio-geography,* has to do with the relation of living things to their physical environment as evidenced in their distribution, habits, etc.: that part of it which relates to man has been called anthropo-geography.

There are two common methods of presenting the results of such a study. One is to start with a description of the physical environment and work toward the human adjustments to that environment; another, to find the facts as to the distribution and habits of the population and seek an explanation in the physical environment. It would appear that the first method were more suited to a study of a new region where the main interest was in the future adjustments. The second seems better suited to a study of an older region where adjustment has been going on for some time and especially to a study, such as the present one, of changes in that adjustment. This latter method has been used in the study which follows.

The writer is indebted to Dr. J. F. Dewhurst formerly of the faculty of the Wharton School of Finance and Commerce of the University of Pennsylvania for his helpful suggestions. Acknowledgment is also made of the interest and assistance of various officials of the United States Department of Commerce and Mr. J. K. Wright of the American Geographical Society.

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CHAPTER I

THE NATURE OF POPULATION CHANGES IN THE REGION AS A WHOLE

A detailed examination of population statistics for small areas is convincing evidence of the danger of making broad generalizations with regard to the population of any but the smallest possible unit.

New England furnishes an especially good example of the untruths told by total figures or averages. The curve [2] in Figure II showing index numbers for the population of New England has had a steady and considerable growth which has been slower than that for the United States as a whole, but in recent years, not markedly slower. The question immediately arises whether this casts doubt on the doleful picture of abandoned farms, "lost towns" and migrating population in New England which has been filling current magazines for some time. The answer is, of course, that New England has a wide variety of physical conditions within its borders and there is, consequently, a variety of population conditions. There are very few generalizations that may safely be made about "the population of New England."

Conditions in the region which is the subject of this study are good evidence that it is even dangerous to accept as the whole picture total figures for relatively small areas. According to the Census of the Commonwealth in 1925, these three counties had a population of 451,808 distributed as follows:

Hampden	327,088
Hampshire	75,122
Franklin	49,598

[2] Most of the curves in this study, and all of those of population, were plotted on an index number basis. This was done because it reduced the space required to show the curves and also allowed direct comparison of relative growth and decline for towns of different sizes. The 1925 figures were taken as the base for the index numbers because it was felt that in a partly historical study such as this, the present situation is much more apt to be known than that at any time in the past. One unconsciously interprets the past in terms of the present. Argument might be made for almost any year as a base in a population study as there is no such thing as a "normal" population, unless it be present population.

The curve for the total population of the area is also shown in Figure II. Up to the time of the Civil War, it shows a much less rapid growth than either the one for the United States or that for New England. Since then, however, it shows a rate of growth approximately the same as that for the United States as a whole and much more rapid than that for New England. Still there is no sign of declining populations, or anything else but a healthy growth.

The curve for each of the three counties as shown in Figure III gives the first indication that there are marked differences in rate of growth in various regions. Hampden County not only has nearly three-quarters of the total population of the region as shown above but has had by far the most rapid growth. Its population in 1925 was sixteen and one-half times what it was when the first United States Census was taken in 1790. Hampshire County stands a poor second in total population and in rate of growth having, in 1925, only four times the population it had in 1790. Franklin County stands last both in population in 1925 and in rate of growth. In 1925 its population was only a trifle over twice that in 1790.

Even the county figures, however, show steady growth and for the actual picture of population changes in the region nothing short of the figures by towns will tell the story.

The "Town" and the "Village"

The New England "town" corresponds to the "township" as found in most other parts of the United States. It is an area rather than a population center. Within the town limits there may be one or more centers of population called "villages" each having its own post-office and there may be also a large area of farmland or forest. The town of Montague in Franklin County contains the villages of Lake Pleasant, Miller's Falls, Montague, Montague City and Turner's Falls, the last of which has over one-half the total population of the town. These villages would be the ideal statistical units for population study but they are usually unincorporated and indefinite of extent and in only one or two of the state censuses has there been any attempt to record their population. Even the figures for the town, therefore, may conceal rather than

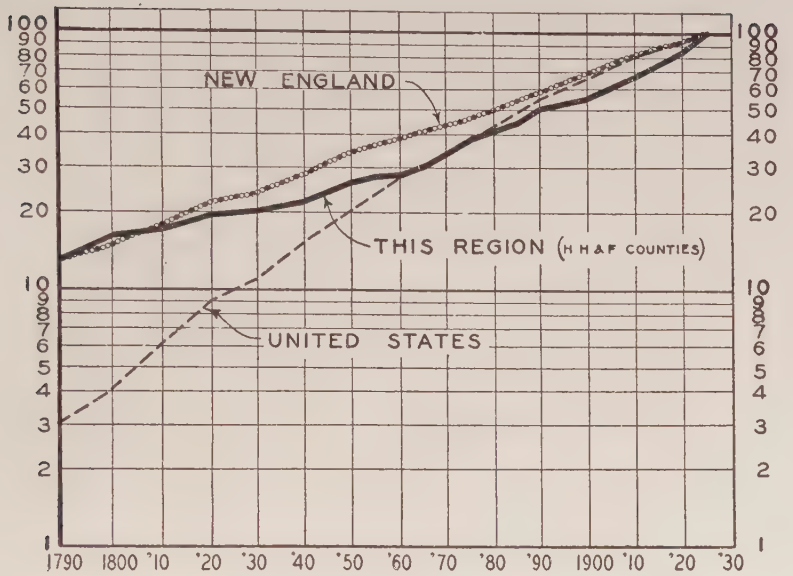

FIG. II. Summary Curves, Population Index Numbers, Hampden, Hampshire, Franklin Counties (Summary); New England, The United States, 1790–1925.

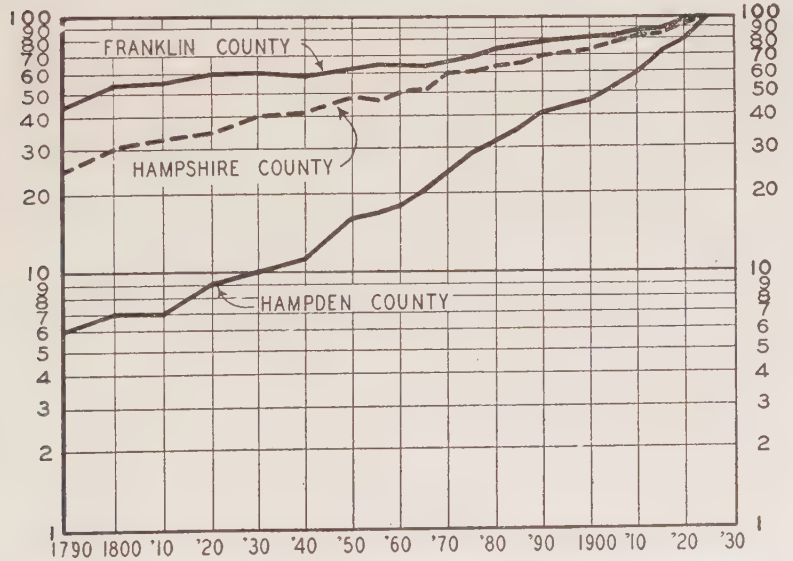

FIG. III. Population Index Numbers, Hampden, Hampshire and Franklin Counties, 1790–1925.

reveal some of the changes which are going on within a quite considerable area. Belchertown, in Hampshire County, with an area of 52.4 square miles is the largest in the three counties, while Longmeadow, in Hampden, is smallest with an area of 9 square miles. The average size of town in the three counties is 26.2 square miles.[3] Within such an area, even, a rather wide diversity of physical conditions may exist and there may as a result be intra-town changes which may be pertinent to the study but impossible to find.

The town then, although not an ideal statistical unit, is by far the most satisfactory of those available and is far superior to the county which has usually been the smallest unit considered in the past. There are seventy-two towns in these three counties.

There have, of course, been changes in boundaries and areas in these towns in the one hundred and thirty-five years which the figures used in this study cover. There appears to be no way in which the specific number of people and square miles affected by these changes may be arrived at. All changes since 1790 have been listed in the tables showing population for each group of towns. It will be seen that most of them merely represented adjustments of boundaries and involved transfer of few people. It appears, from the nature of a few of the population curves, that some had a marked effect. These are commented on where they appear. The net land area of each town in the Commonwealth was not determined until 1915[4] so there is no basis for comparison of areas previous to that date.

The method of approach in this study has been to determine the changes that have taken place in each town and group the towns which have a similar history with regard to each separate type of change. These groups were then mapped. From a comparison of these maps with the maps of physical phenomena, the relationship, if any, between the various classes of population change and the physical condition was then determined.[5]

[3] *Census of Mass.*, 1915, pp. 83–84.
[4] *Census of the Commonwealth*, 1915, p. 37, footnote.
[5] For detailed description of method see footnotes for page 1 of this Chapter and page 11 of Chapter II.

The Changes

The changes which have taken place may be outlined as follows:

1. A Steady and Rapid Growth in Population in Twenty-two Towns

These towns may be divided into two classes on the basis of rates of growth. The summary curves for the index numbers of population in these towns are shown in Figure IV as the "Springfield" and the "Northampton" types. Both curves are nearly straight lines on the semi-logarithmic scale and show steady rates of growth. The "Springfield" type has grown from an index number of 3 in 1790 to 100 in 1925. The "Northampton" type has grown from an index number of 9 in 1790 to 100 in 1925. The geographical distribution of these types may be seen in Figure VI. It will be seen that the towns included are, with but few exceptions, contiguous, although no other basis than the shape of their population curves was used in grouping them.

2. A Rise, Decline, and Rejuvenation of Five Towns

The summary curve for this type is designated "Hadley" in Figure IV.[6] It is characterized by a slow but steady upward growth from an index number of 34 in 1790 to a peak at 71 in 1870 from which it declines to 54 in 1890. Then it turns upward again to an index of 95 in 1915. From that date to 1925, it rises slowly to 100. The geographical distribution of this type may also be seen in Figure VI. Again, the towns are contiguous.

3. A Rather Consistent Decline in Twenty-five Towns Since the First Part of the Nineteenth Century

The summary curve for this type is indicated in Figure IV as the "Ashfield" Type. It shows a population in 1790 2.1 times that in 1925 with a rise to a "plateau" in 1810, 1820 and 1830 at 2.8 times its population in 1925 and then a steady decline to the last census. The distribution of these towns is also shown in Figure VI, and, while they are by no means entirely contiguous, their general distribution does appear to follow a definite scheme.

[6] Deerfield is not included in summary curve. See footnote, p. 31.

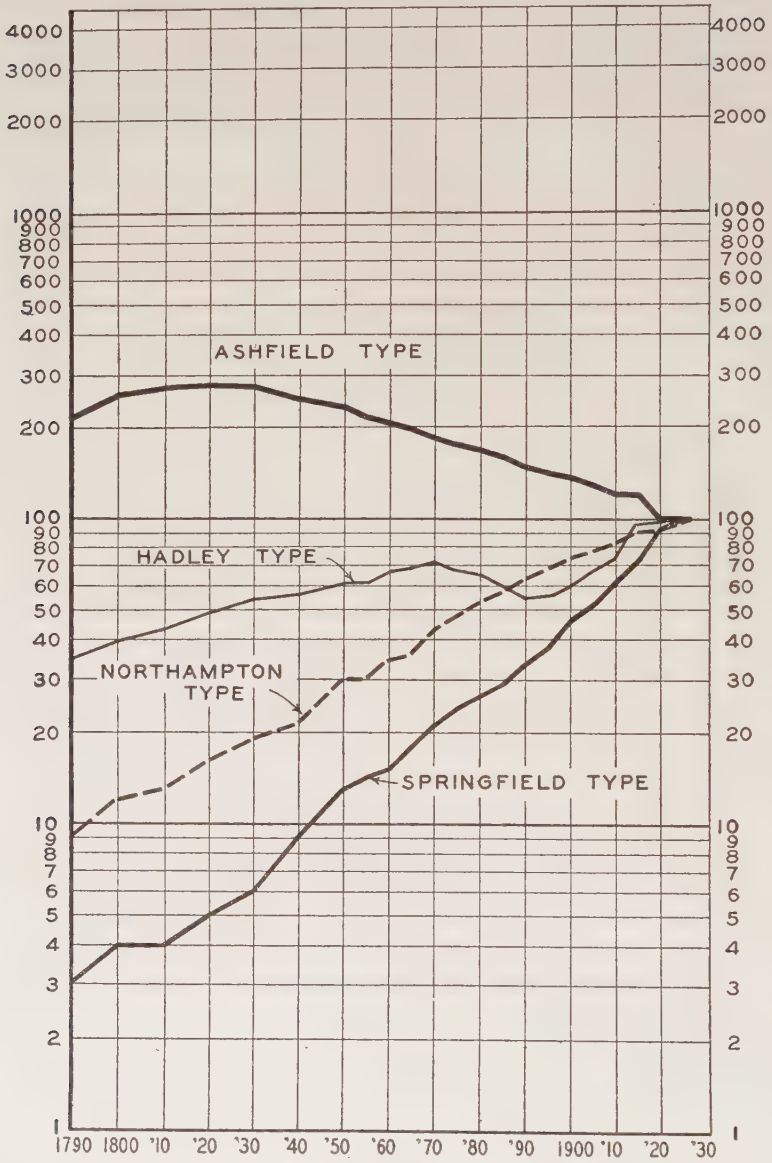

FIG. IV. Summary Curves, Population Index Numbers, All Types, 1790–1925.

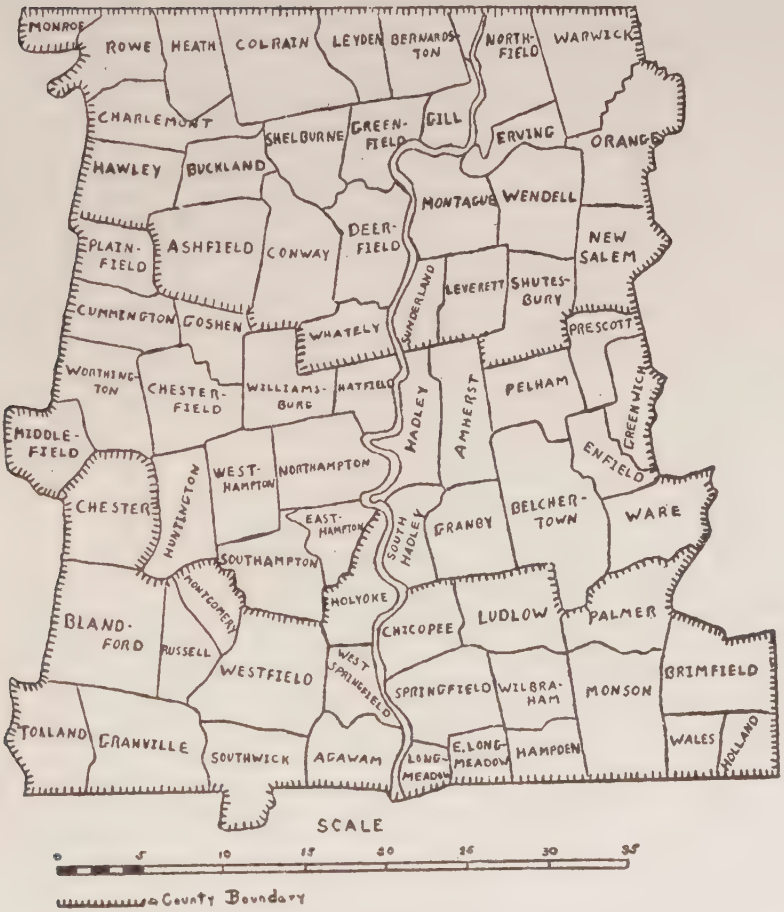

FIG. V. Town Identification Map.

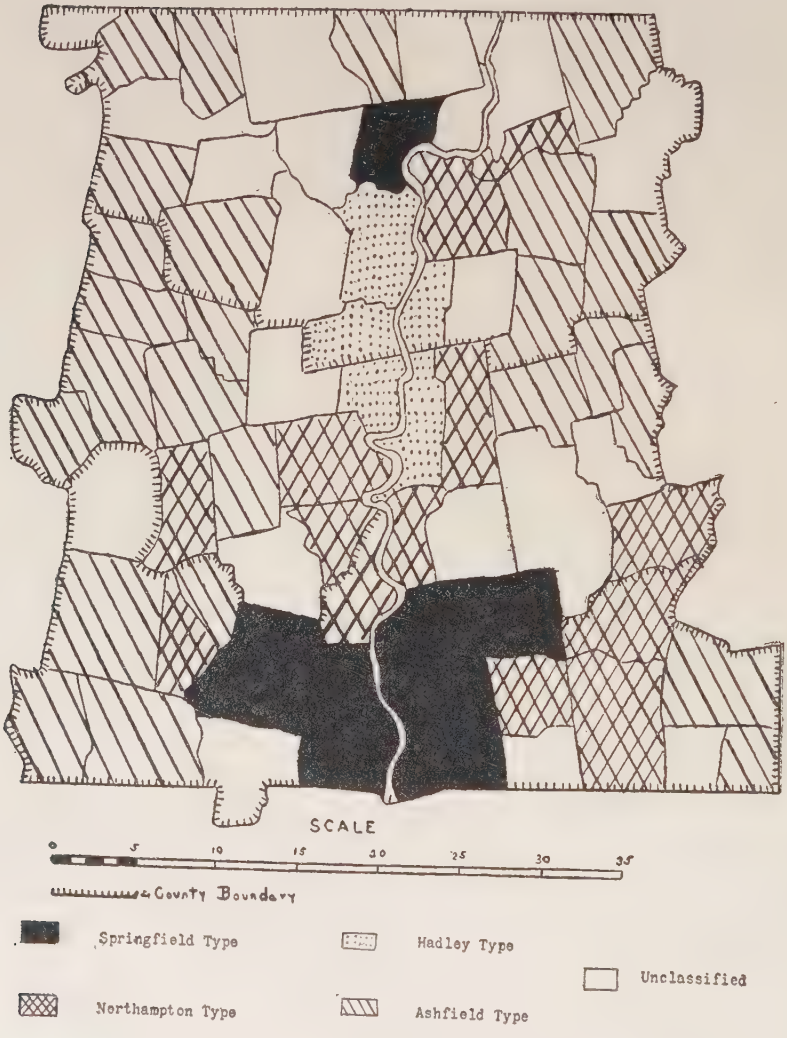

FIG. VI. Distribution of Types of Towns.

4. Erratic Fluctuations in Twenty Towns

These are represented in Figure VI as "Unclassified." There is, of course, no summary curve for this group. The individual curves appear in Figure XVII. These towns have had a wide variety of curves, most of them showing erratic fluctuations. As Figure VI indicates, they are rather widely scattered.

5. A Decrease in the Number and Proportion of the Population Engaged in Agriculture

In 1820, 17,102 persons were engaged in agriculture in these three counties. This was 20.2 percent of the total population. By 1875 the number had risen slightly to 17,199 which was, however, but 10.4 percent of the total. By 1920, there were but 12,052 or 2.9 percent. This decrease was by no means universal, however. Between 1820 and 1875, there was an increase in population engaged in agriculture in twenty-eight towns and, between 1875 and 1920, a further increase in five towns.

6. An Increase in the Number and Proportion of the Population Engaged in Manufacturing

But 3,543 persons or 4.8 percent of the population were engaged in manufacturing in 1820. By 1875 the number had increased to 32,662 and the proportion to 19.1 percent. In 1920 this occupation gave employment to 99,597 persons or 23.9 percent of the total. There were some exceptions to this general trend. Between 1820 and 1875, nine towns lost in persons engaged in manufacturing. Between 1875 and 1920, towns showing such losses numbered twenty-seven.

7. An Increase in Proportion of Foreign Born to Total Population for the Region as a Whole Between 1875 and 1920, but a Considerable Variety of Change in this Respect in the Various Towns

In 1875, the people of foreign birth in the region represented 22.4 percent of the total population. By 1920, this proportion had increased to 25.2. Only fifty of the seventy-two towns of the region contributed to this increase. One town showed no change

in proportion and nineteen towns showed decreases. All five of the principal agricultural towns showed increases, as did most of the hill towns with declining total population. Several of the larger cities such as Springfield and Holyoke registered decreases in proportion of foreign born to total population.

8. An Increase between 1875 and 1920 in the Proportion of Foreign Born from Central, Southern and Eastern Europe and a Decrease in Proportion of Those from Northwestern Europe

In 1875, the Irish, English, Germans, and Scotch comprised 73.2 percent of the total foreign born. At that time no eastern, southern or central European nation supplied 1 percent of the total foreign born. By 1920, 20.7 percent of the foreign population was from these nations and the Irish, English, Germans and Scotch contributed but 28.3 percent.

These shifts, with their distribution and geographic causes, are the subjects of the pages which follow.

CHAPTER II

POPULATION INCREASE AND ITS RELATION TO TOPOGRAPHY AND SOIL

The towns with increasing populations have curves which fall into three general classes. These classes have been determined by comparing the curves of index numbers of population. Where the curves were similar in shape the towns were considered as belonging to the same group. Curves have been considered similar if the main trends of the curves were the same. The summary curves were made by adding the population figures for all the towns in the group which had continuous statistics for the longest period and then plotting the index numbers of these totals.[7]

Nature of the Curves

The summary curves for each of the classes of towns which have had an increasing population have already been shown,[8] but they are shown again in Figures VII, VIII, IX. It will be seen that the main difference between the curves for the Springfield and Northampton types is one of rate of growth, the Springfield group having a much more rapid rise. The Hadley type is characterized by a recession in the years 1870–90 and then an increase to 1925.

The General Relation between Growth and Topography

The effect of topography on population distribution in the region has been extraordinarily strong. This can be seen immediately in a comparison of Figure VI showing the distribution of various classes of towns, and Figure X showing the location of the 500-foot

[7] The figures for some towns are not included in the summary curves of the groups in which they were classified because these towns were established since 1790 from portions of towns outside the classifications to which they belong. Adding these figures to the group totals would give an exaggerated growth picture at the period when they were incorporated. The notable example of this is Holyoke which is in the Northampton type but was made out of a portion of West Springfield in 1850. West Springfield has been classified with the Springfield type.

[8] Figure IV.

contour and the distribution of drainage. It will be seen that no town having an increasing population lies entirely above the 500-foot contour.[9]

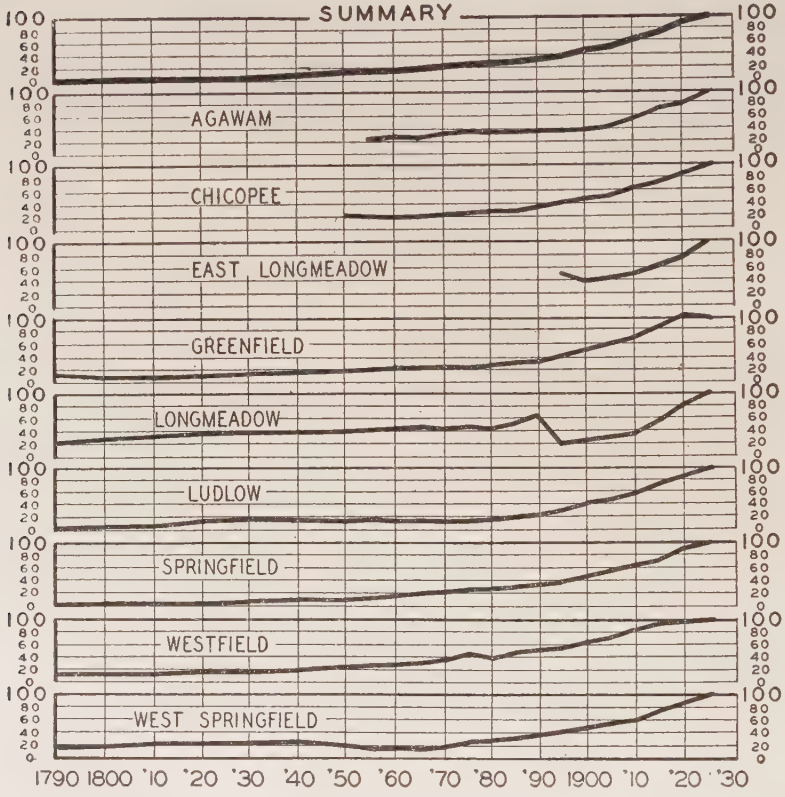

FIG. VII. Summary and Individual Curves, Population Index Numbers, Springfield Type Towns, 1790–1925.

The significance of the 500-foot contour lies in the fact that it serves as approximately the boundary between the three physiographic regions of the area. This line separates the Connecticut Valley Lowland, which runs through the center of the region from

[9] Even such towns as Huntington, Erving, Monson and Ware which lie largely above the 500-foot contour have most of their population in the small proportion of river-side land within their area. See topographic sheets of the U. S. Geological Survey for Granville, Warwick, Palmer and Barre.

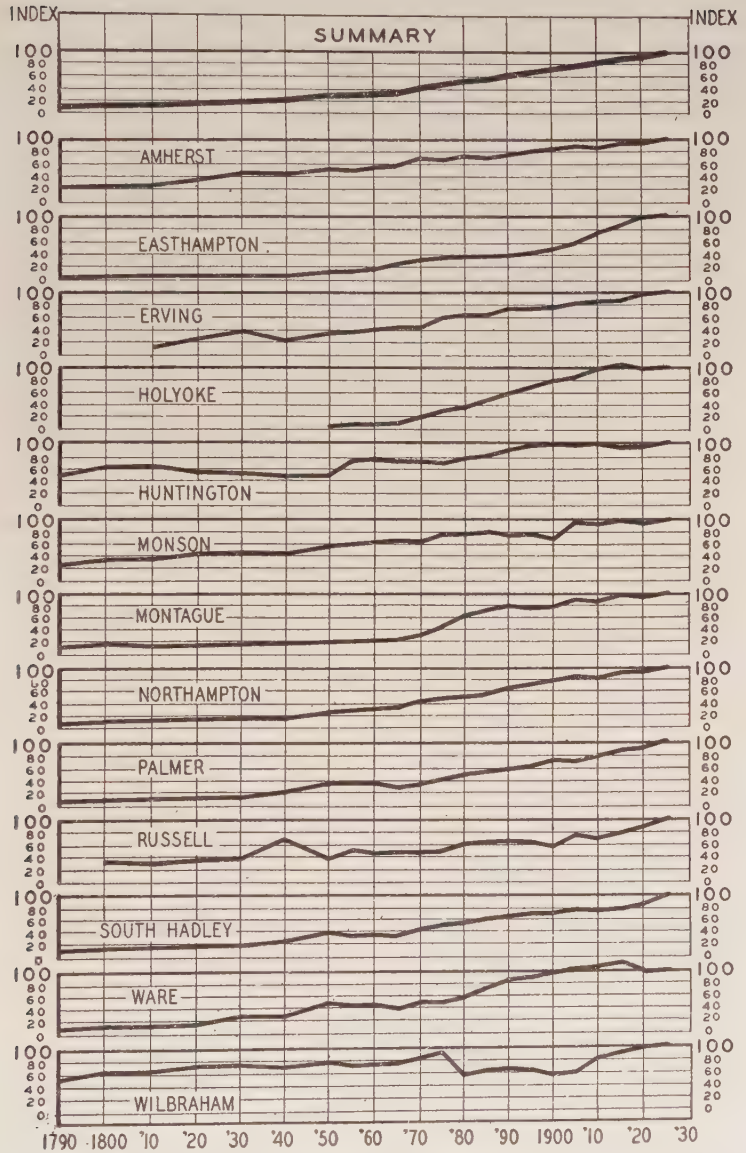

FIG. VIII. Summary and Individual Curves, Population Index Numbers, Northampton Type Towns, 1790–1925.

the Central Upland of Massachusetts on the east and the Western Upland on the west. It is a more or less arbitrary line and, in some places, especially in the southeast, does not represent the exact border of the Valley, geologically, but is nowhere more than

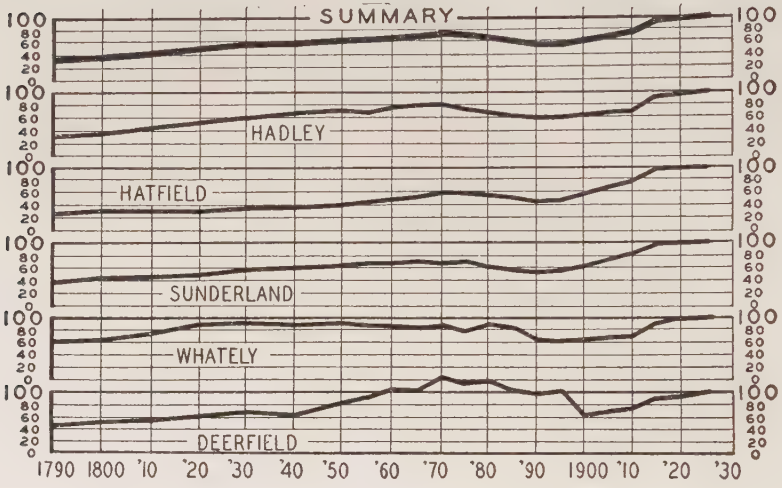

FIG. IX. Summary and Individual Curves, Population Index Numbers, Hadley Type Towns, 1790–1925.

a fraction of a mile from it. In the northeast it coincides almost exactly with the geologic borders of the Valley.[10] The 300-foot or the 400-foot contour might be taken, but the 500-foot has the advantage of also including most of the tributary valley land which has Connecticut Valley Lowland conditions. The contrast between the Uplands and the Valley Lowland is marked and of tremendous significance from a population standpoint.

The Valley is about two miles wide at the northern boundary of Massachusetts and widens to the southward to approximately twenty miles at the southern border. It has a rough " bug " shape with the head to the northward. The Millers' and Deerfield Valleys' form the " front legs " and the Chicopee and Westfield Valleys the " rear legs."

[10] See U. S. Dept. of Ag., *Field Operations of the Bureau of Soils,* 1903, Maps I and II, Washington, Govt. Printing Office, 1904.

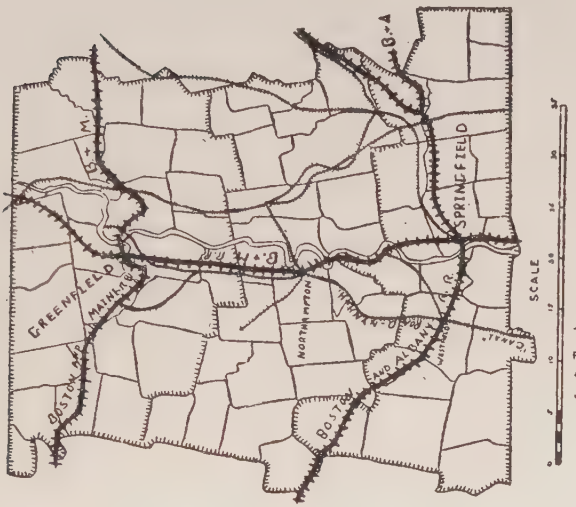

FIG. XI. Railroads.

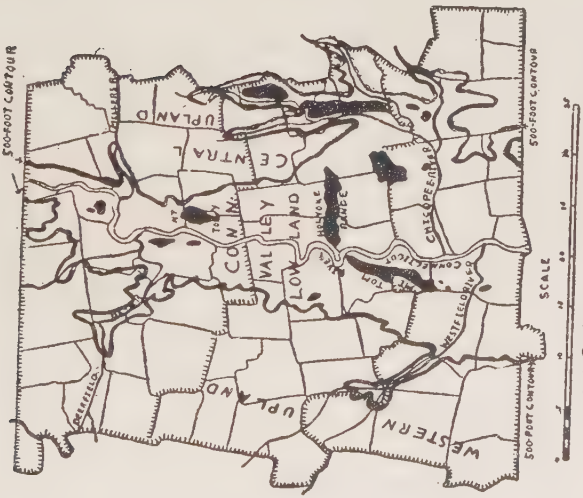

FIG. X. Physical Features.

The Valley Lowland is generally gently rolling, although there are some marked exceptions to this. There are a number of long, narrow, even-topped ridges and isolated hills which rise abruptly from the rather level surface and form especially abrupt cliffs on their western and northern sides. The longest of these is the Holyoke Range which reaches up the center of the Valley from approximately New Haven, Connecticut, to the northern boundary of Holyoke and then turns abruptly to the eastward, very nearly joining the Central Upland. Another, is the narrow series of ridges which start near the southern border of the town of Deerfield and extend nearly to Greenfield. East of the river, in the town of Sunderland, the high and symmetrical peak of Mt. Toby stands out in the Valley separated from the Upland on the east only by a narrow gorge.

There are also several interesting results of glaciation in the Valley. Well-defined drumlins lie scattered through it and wide terraces along the Connecticut and its tributaries mark the various stages of the great lake which stood in the Valley during glacial times. The soil of the immediate flood-plains of the rivers is of river origin while that of the remainder of the Lowland is glacial in origin.

The Uplands rise rather abruptly from the Valley on both sides They are rugged and hilly and erosion has cut deep gorges in them. The soil is rather thin and varies widely in fertility so agriculture, except for some dairying and fruit-raising, is a precarious occupation. Transportation is difficult in this rugged country and railroads cross it only along the lines of the two main east-west river systems.[11]

In view of the fact that the Valley offers more favorable topography and soil for agriculture and easier transportation, the reason for the greater growth of the Valley towns might seem fairly obvious. The relationship is not nearly so simple as this, however, as a detailed examination of the causes for growth in each of the various classes of towns will show.

[11] A good brief description of the topography of the region is found in E. O. Fippen, "Soil Survey of the Connecticut Valley," U. S. Dept. of Agriculture, *Field Operations of the Bureau of Soils,* 1903, pp. 41–43.

The Springfield Type Towns

The population of these eight towns at various censuses is shown in Table I. The total population of the group in 1925 was 255,420 which amounted to 58.6 percent of the population of the entire region.

TABLE I [12]

Population of Towns of the Springfield Type
1800, 1850, 1900, 1925

Town	*1800*	*1850*	*1900*	*1925*
Agawam (1)	—	—	2,536	6,290
Chicopee (2)	—	8,291	19,167	41,882
East Longmeadow (3)	—	—	1,187	3,134
Greenfield (4)	1,254	2,580	7,927	15,246
Longmeadow (5)	973	1,252	811	3,333
Ludlow	650	1,186	3,536	8,802
Springfield (6)	2,312	11,766	62,059	142,065
Westfield	2,185	4,180	12,310	19,342
West Springfield (7)	2,835	2,979	7,105	15,326

(1) Established from a part of West Springfield in 1855.
(2) Established from a part of Springfield in 1848.
(3) Established from a part of Longmeadow in 1894.
(4) Part of Deerfield annexed in 1896.
(5) See (3) above.
(6) See (2) above.
(7) Part established as Holyoke in 1850. See also (1) above.

The characteristic of the summary curve for the Springfield Type towns which sets it off from the others is the markedly greater rate of growth. These towns are largely concerned in manufacturing, as is true of all but five of the towns with increasing population in the area.[13] It would seem then that, if the Springfield Type towns have grown faster than these others, it must be due to some special advantages for manufacturing; either because of advantageous location with regard to access to power, raw materials, labor-supply or a wide market. These items, especially raw materials, market and power, became available in New England largely through transportation, as there are practically no raw materials nearby, the large markets are at some distance, and the

[12] This and all the summary tables of this sort are based on statistics given in summary form for all towns in the Commonwealth in *The Census of Massachusetts,* 1905, Vol. 1, pp. 802–1803, and *The Decennial Census of the Commonwealth,* 1925, pp. 10–16.

[13] See Figure XX.

water power has long since become inadequate, although in some towns it may still be important.

The significant thing about the distribution of this type is that it is confined to the immediate area of the type-city, Springfield, with the single exception of Greenfield which is relatively quite far away. This exception, however, is extremely important in the search for the factors which have caused these towns to lead all others in the area in population growth. It would seem that in the item or items of location which are common *only* to Springfield and Greenfield lie the causes for their superiority. The unique item may be readily seen. It lies in the peculiar relations of each of these centers to the crossing of the main transportation routes of the area and these in turn are related to the drainage and the topography.

The Relation of Topography to the Growth of the Springfield Type

In these counties, as in all Massachusetts, the trend of the main upland and drainage systems is north and south. This has had important results on the direction of population movement. Most of the Valley towns were settled, not directly from the settlements around Massachusetts Bay, but from the Valley settlements to the southward in Connecticut. The people who first settled the Connecticut portions of the Valley were largely from the older settlements to the eastward, but came to the region originally by water. The rough Upland region which lay to the west of the Bay settlements was a real obstacle to travel by land. A trail through the Upland was soon blazed, however, and became known as the "Connecticut Trail." It followed roughly the course of the present New York, New Haven and Hartford Railroad route from Boston to Hartford.[14]

It is likely that it was over this route that William Pynchon, the founder of Springfield and the first settler of the Valley within Massachusetts, led a party in 1636.[15] With hardly a stop at the

[14] Roughly parallel to it and slightly to the northward.

[15] There is a difference of opinion among historians as to the route of these settlers. Bacon, E. M., "*The Connecticut River,*" p. 35, says that it was this "Old Connecticut Path" over which Pynchon came. Holland says, "*History of Western Massachusetts,*" Vol. I, p. 24, that they came over the

Windsor and Wethersfield settlements he turned northward and settled finally with his eight companions in the broad and rich meadows at the present site of Springfield.

Transportation Advantages

That the site of the largest city and principal manufacturing and railroad center of the Valley in Massachusetts should have been settled first is an interesting coincidence, but probably merely a coincidence. Pynchon could have made his settlement with no thought to the transportation routes which later were to cross the Valley there, for these routes were not known for ten years after the settlement.[16]

Religious, political and other forms of dissension soon drove many settlers of the Connecticut parts of the Valley to seek new homes to the northward and soon Deerfield, Hadley and Hatfield were founded. The increasing population in the region led to a search for new routes connecting it with the Bay settlements and, about 1646, the "Second Connecticut Trail" was blazed. It was the first to make use of the valleys of the Chicopee River and its tributaries as the western parts of a route through the Upland. This route had its western end at Springfield which lay just to the south of the mouth of the Chicopee. Here, for the first time, was any indication that the site of Springfield had any advantages other than those of flat, rich land for agriculture and an outlet by way of the Connecticut Valley to the southward. This route, with some changes in its central and eastern parts, later became the famous "Bay Path" over which thousands of settlers poured into the western country. In 1787 a stage line over this road connected Boston with Springfield and Hartford where ships connected with New York. This was the original "Boston Post Road." This position as a travel center became an important one and, connected

"Bay Path." There seems to have been a rather loose use of this term which later came to be applied only to the route now taken by the main highway from Springfield to Boston. Jenkins, S., "*The Old Boston Post Road*," p. 290, says: "The route taken by the Roxbury party of settlers was known as the Old Connecticut Path"—but he locates that route differently than does Bacon.

[16] Bacon says that the "Second Connecticut Trail" which, with some changes in the east, became the "Bay Path" did not become known for nearly ten years after the settlement. *Op. cit.*, p. 36.

as it was to Boston, the down-river centers and New York, it grew rapidly.

Even in these early days, there began to appear the first signs of that other transportation route which was to add to the value of Springfield's location. Attention has been called to the "bug" shape of the Valley Lowland and the almost perfect articulation of the two "rear legs," the Chicopee and Westfield Rivers, should be noted. As the Chicopee offered a route through the Upland to the eastward, so the Westfield led back naturally into the Western Upland. The Indians were long familiar with this route and it was called to the attention of the Springfield settlers at an early date.[17] Early used as a foot-path and bridle path, it attracted settlement to the westward and formed a link between the settlements in the Connecticut and Housatonic Valleys.

Barge traffic between Springfield and the head of ocean navigation at Hartford became important at a very early date in spite of the Enfield rapids a few miles downstream.[18] In 1792 steps were taken toward the construction of canals around the South Hadley and Turners' Falls (in Montague). The completion of these improvements, together with the fact that it was a focal point for important roads, made Springfield an important river port.[19] From 1826 to 1840 steamboats operated on the river, sometimes ascending far into Vermont.

The period of importance of river navigation was a short one and soon, with the coming of the railroad, the full importance of Springfield's position came to be realized. In 1839 Springfield was connected with Boston by a railroad over the route of the old "Bay Path." Two years later this line had been pushed westward up the Westfield Valley and across the Upland to Albany on the Hudson. This is now the "Boston and Albany Railroad" and constitutes one of Boston's two links with the West. In 1844 a railroad connection with Hartford at the head of steamer navigation on the Connecticut was completed and this was later extended

[17] See Holland's account of the retreat of the Indians over this route in 1676, *op. cit.*, Vol. I, p. 131.

[18] A canal was built around these rapids in 1829.

[19] "The town of Springfield rapidly advanced in wealth and importance, until it became the center of a large inland and river commerce. Its natural and artificial advantages rendered it one of the most important commercial depots on the Connecticut River." Holland, *op. cit.*, Vol. II, p. 55.

to New Haven and New York. The next year a line was completed up-river to Northampton, reached Greenfield in 1847 and the northern border of Massachusetts in 1849.[20]

The motor roads of today, over which are transported not only multitudes of passengers but also unmeasured quantities of freight, also concentrate on this Springfield center. The principal automobile route from Boston to Albany follows the line of the old Bay Path and on by way of the Westfield Valley to Pittsfield and the Hudson. One of the principal routes between Boston and New York is over this first "Boston Post Road" which turns at Springfield to Hartford and New Haven. The chief route from the New York area to the summer resorts of northern interior New England, especially the White Mountains, lies up the Connecticut Valley past Springfield.[21]

It is rather interesting to note that no matter what the vehicle, whether horse, stage-coach, boat, railroad or automobile, there has been no fundamental change in the location of the routes that center on Springfield.

Many of the other towns of the Springfield group are but satellites of the city itself and have grown by their nearness to it, both because they could absorb its overflow and because they were near enough to be able to enjoy the advantages of its location. This is especially true of Agawam, West Springfield, Longmeadow and East Longmeadow. West Springfield, for instance, has the repair shops of the Boston and Albany Railroad which are located here because of the importance of Springfield as a railroad center. Agawam, Longmeadow and East Longmeadow are but suburbs of Springfield and West Springfield.

Westfield in a minor way has a strategic, junction position of its own. It not only lies on the line of the Boston and Albany Railroad from east to west but that line is here crossed by the "Canal Division" of the New York, New Haven and Hartford. This road is of relatively little importance now but it marks a transportation route which has had considerable effect.

It will be noted (Figure X) that the western part of the Connecticut Valley is cut off from the River itself by a long trap

[20] For Railroads of the Region see Figure XI.
[21] For motor routes see Figure XII.

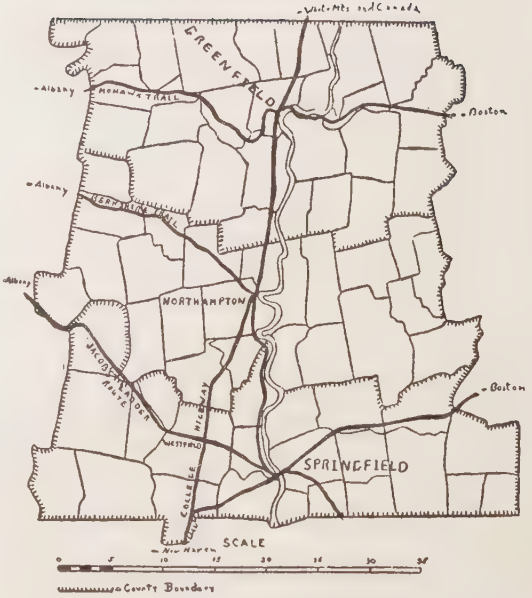

FIG. XII. Through Motor Roads.

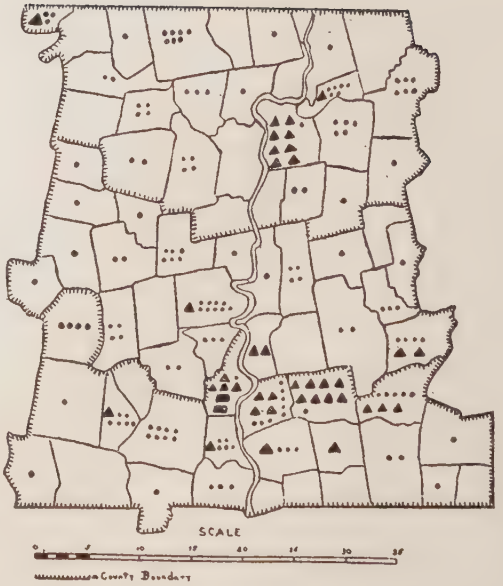

FIG. XIII. Installed Capacity of Water-power by Towns, 1903. ● = 100 H. P.; ▲ = 1000 H. P.; ■ = 10,000 H. P.

ridge. This ridge is nearly continuous southward to Long Island Sound. West of this ridge and between it and the Western Upland in Massachusetts and Connecticut is a broad, relatively flat section of the Valley Lowland. New Haven, Connecticut, lies at its mouth, on the Sound. In 1834 a canal over this lowland was completed connecting New Haven with the Connecticut at Northampton. It was designed to drain the trade of the upper Connecticut out through New Haven. It was of some importance for a few years and made Westfield, in a minor way, the crossing of two routes. It encountered many difficulties, mainly lack of water and the porous nature of the glacial gravels through which it ran in large part. In 1847 it was superseded by the "Canal Road" which later became a subsidiary of the "New Haven." At present the principal transportation artery over this route is the "College Highway," an important motor route which connects the two college towns of New Haven and Northampton and offers a short-cut to northern New England from New York and the shore districts below New Haven.[22]

The situation of Greenfield is remarkably similar to that of Springfield. Here the "front legs" of the "bug," the Miller's and Deerfield Rivers, also offer a route through the Upland and at right angles to the Connecticut Valley. Used in pioneer days as a trail, it was proposed in 1826 to construct a canal by this route connecting Boston with Albany. Nothing was done about this proposal but the Boston and Maine Railroad, the second of Boston's links with the West, later followed this route. The completion of the line was delayed until 1875 due to the necessity of drilling a five-mile tunnel through Hoosac Mountain in the town of Monroe. Another line of this same railroad crosses the east-west line here and joins the upper Connecticut Valley country and lower Canada with Springfield and the roads leading to the sea and New York.

Greenfield is not only similar to Springfield as a railroad center but also as a focus of modern highways. Here another important motor route from Boston to Albany and the West follows the railroad through the Uplands by way of Miller's and Deerfield Rivers and here crosses the north and south highway up and down the valley of the Connecticut.

[22] See Figure XVII.

The similarity of population curves in these two separated transportation centers where conditions of topography are so strikingly similar seems to argue that it was this unique cross-roads position in each case that accounted in large part for the results.[23] The difference between the size and importance of the two areas may be accounted for by the fact that Springfield is nearer the Sound and New York and lies on one of the direct routes between that city and Boston and also by the fact that the through route to the West which passes through Greenfield is of a much more recent date.

Effect of Topography on Power and Manufacturing in the Springfield Group

It will be seen from Figure XIII which shows the installed capacities of water-wheels by towns that the principal water-power sites are clustered around the Springfield and Greenfield centers, especially the former. Even the great water-power sites on the Connecticut at Holyoke and Turners Falls (in Montague), although they bear no direct relation to the topography of the Uplands, are close to the two transportation centers.

The importance, from a power standpoint, of the Chicopee River and its tributaries can be very readily seen in the installed water-wheel capacity in the towns of Chicopee and Ludlow in this group and Palmer and Ware in the Northampton Type. The influence of the Westfield is less marked but West Springfield, Westfield, Russell, Huntington and Chester give some hint of it. The Miller's River furnishes considerable water-power in the short distance that it flows within the region. Only the Chicopee and the Westfield of the tributary rivers have any direct bearing on the Springfield Type towns as far as power-supply goes. The two sites on the Connecticut have been important in recent years in furnishing some electric-power to the neighboring centers.

[23] "Thus it invariably appears that whatever increase in population took place in the country can be accounted for, at least in large part by the growth of its manufacturing towns," and, "After 1840 there is evident a distinct tendency for factories to concentrate in the towns which offered the best transportation facilities. . . ." Bidwell, P. W., "Population Growth in Southern New England 1810–1860," *Quarterly Publications Am. Statistical Assoc., New Series,* 120, Dec. 1917, pp. 832 and 837.

Relative Effects of Transportation and Water-power on the Springfield Type

The relative importance of the effects of transportation and water-power on the growth of these towns is difficult to measure. Holland says, " no one cause, *if we except, perhaps, railroads,* has contributed so much to the prosperity of Springfield as the United States Armory established within its limits." [24] This enterprise was established in 1776 in this city "—in consequence of its inland and central situation." [25] Thus, writing in 1855, this historian places almost entire emphasis on the transportation and location factor.[26]

For the City of Springfield and its suburban towns the transportation factor might be considered practically the only powerful one as they have very little water-power. The same might be said, also, of Westfield. It is doubtful, however, that it is equally true of Chicopee and Ludlow as each of these towns has substantial amounts of water-power.

Greenfield has probably owed its rapid rate of population growth entirely to its transportation position. It has almost no water-power within its limits (See Figure XIII), and commenced its most rapid rate of growth only with the completion of the Hoosac Tunnel in 1875 and the opening of the through line of the Boston and Maine Railroad between Boston and Albany.[27]

The Northampton Type Towns

The population of each of these thirteen towns is shown in Table II. The total population for the group in 1925 was 148,491 which represented 33 percent of that for the whole region.

[24] Holland, *op. cit.,* Vol. II, p. 126.
[25] Holland, *op. cit.,* Vol. II, p. 126.
[26] It is interesting to note that most of the important factories mentioned by Holland as existing in Springfield in 1855 had been started since the coming of the railroad in 1839, *op. cit.,* Vol. II, p. 130 et seq.
[27] See the index numbers of population for Greenfield in the Appendix, Table VIII.

TABLE II

POPULATION OF TOWNS OF THE NORTHAMPTON TYPE
1800, 1850, 1900, 1925

Towns	*1800*	*1850*	*1900*	*1925*
Amherst	1,358	3,057	5,028	5,972
Easthampton (1)	586	1,342	5,603	11,587
Erving (2)	—	449	973	1,334
Holyoke (3)	—	3,245	45,712	60,335
Huntington (4)	959	757	1,475	1,543
Monson	1,635	2,831	3,402	5,089
Montague (5)	1,222	1,518	6,150	7,973
Northampton (6)	2,190	5,278	18,643	24,145
Palmer (7)	1,309	3,974	7,801	11,044
Russell	431	521	793	1,398
South Hadley	801	2,495	4,526	6,609
Ware (8)	997	3,785	8,263	8,629
Wilbraham (9)	1,743	2,127	1,595	2,833

(1) Parts of Southampton annexed, 1841 and 1850.
(2) Parts of Northfield annexed, 1860. Established 1838 from common lands.
(3) Established 1850 from part of West Springfield. Part of Northampton annexed, 1909.
(4) Parts of Blandford and Chester annexed, 1853.
(5) Parts annexed to Wendell, 1803.
(6) Part of Hadley annexed, 1860. Part annexed to Holyoke, 1909.
(7) Part of Warren, Worcester County, annexed 1831.
(8) Parts of Brookfield and Warren, Worcester County, annexed 1823.
(9) Part established as Hampden, 1878.

The curves for these towns appear in Figure VIII. It will be noted that the only difference between the summary curve for this group and that for the Springfield group lies in the general rate of increase. Even this is not great but it was thought advisable to separate them in order not to conceal the differences in too general a summary curve.

Like the Springfield Type, this group is also largely industrial [28] and the causes for the growth of population here must also lie largely in the advantages which these towns have for manufacturing.

[28] See Figure XX. Possible partial exceptions to this statement are Amherst with its two colleges (Amherst and Massachusetts Agricultural College), Northampton with its one college (Smith) and South Hadley with its college (Mount Holyoke). Amherst is more industrial than agricultural however as are also Northampton and South Hadley. Northampton or South Hadley are by no means as largely dominated by their colleges as Amherst is. Students are, of course, not counted in the census figures but faculty, college employes and merchants dependent on student trade are.

General Location

The clustering of these towns around the two centers of the Springfield Type is probably somewhat significant. It might logically be expected that the location factors which were favorable to manufacturing growth in that group would have some influence on the surrounding towns but that, with increasing distance from these centers, the diminishing influence of their advantages would give rise to a slower growth. This is probably not of great importance, however, except for its influence on the attitude toward manufacturing and the availability of a labor supply.

It will be noted that all of the towns of this type are Valley towns. Wilbraham, Monson, Palmer and Ware border on the Chicopee and its branches and are therefore on the railroads which have been built along this Valley. Russell and Huntington touch the Westfield Valley and are therefore on the main line of the Boston and Albany. Erving lies almost entirely in the valley of Miller's River so is on the Boston and Maine. This railroad passes through Montague but lies south of the Village of Turners Falls which has most of the population and has contributed most of the growth of this town. The other towns lying in the Connecticut Valley are served by the railroads which are quite numerous there.

Only Northampton has any particular advantages from a location standpoint. As can be seen from Figure X, and XI, it is located where the broad portion of the Valley Lowland lying west of the trap ridges, here merges with the main Valley due to the fact that the Mount Tom-Holyoke Range bends sharply to the eastward at this point. This has meant that it was the logical junction point for lines leaving the Upper Connecticut to go to the southeastward to New Haven and the shore, west of the trap ridges. As has already been indicated, a canal connected Northampton with New Haven in the 1830's and 1840's. The "Canal Road" of the New York, New Haven & Hartford occupies this route today and is paralleled by the College Highway. It is also the western terminus of an unimportant branch of the Boston and Maine Railroad which, after passing through the Central Upland by way of the valley of the Ware River, a branch of the Chicopee,

turns northwestward from Ware and crosses the Connecticut Valley to Northampton.

The Mill River, a small stream flowing down from the Western Upland by way of Williamsburg, offers a route into the Upland. A branch railroad runs as far as Williamsburg over this route but was never pushed further. This valley was once considered as one of the possibilities for a railroad across the Western Upland but the southern and northern passages are lower and more accessible to the crossing of the Central Upland.[29]

A fine motor highway now follows up this valley to Goshen, then over the Upland to the valley of the Westfield, up it to Windsor Hill, then over that to a tributary of the Housatonic and so to Pittsfield. It is very appropriately called " The Berkshire Trail." Northampton is, of course, served also by the railroads and roads running north and south through the valley of the Connecticut.

It would seem, then, that this group of towns is favorably located with regard to the main transportation routes which have resulted from the topography of the region. Northampton, alone, has any particular advantage from this cause.

Effects of Topography on Water-Power and Town Growth

From a comparison of Figures VIII and XIII it will be seen that, with few exceptions, these towns have substantial amounts of water-power. The two large water-power sites on the Connecticut River are at Turners Falls in Montague and at South Hadley Falls between the village of that name and Holyoke. Turners Falls mark the passage of the river from the crystalline Upper Valley to the softer Triassic of the Middle Valley. The South Hadley Falls represent the fall of the river over a resistant layer of the Triassic sandstone. The water-powers are without doubt responsible for the growth of the towns mentioned. In fact, Holyoke was not incorporated as a town until after the building of the dam in 1849. Prior to that time it had been a part of West Springfield. It can be seen by examining the population index numbers for Holyoke and South Hadley in the Appendix, Table IV, that neither of these towns had any considerable growth until after the completion of the water-power development.

[29] Holland, *op. cit.*, Vol. I, p. 416.

The delay in feeling the effects of the new development at Holyoke until after 1865 may be explained by the financial difficulties which the manufacturing companies of this town went through following the hard times of 1857.[30] The population of Montague had shown slight growth in the seventy-five years prior to the development of the water-power at Turners Falls in 1867. It will be noted [31] that there was immediate and rapid growth after that date.

Northampton, besides having the transportation advantages already mentioned has developed to the utmost the small water powers of the Mill River. Wilbraham, Palmer and Ware, have power from the Chicopee and its tributaries. Russell has an important source of water-power in the Westfield which passes through the town. At Miller's Falls and Erving, the Miller's River furnishes power.

This leaves the towns of Monson, Huntington, Amherst and Easthampton to be accounted for. None of these towns has any considerable amount of water-power, yet with the possible exception of Amherst, there is no doubt as to their growth being due to manufacturing. It is probable that in each case what little water power was available served to give manufacturing a small start in the days before the railroad and then, when the railroad did come, bringing with it coal as a source of power, the energy of the interests already engaged was sufficient to expand the industries. An example of how this combination of causes operated may be seen in the case of Easthampton.

The Story of Easthampton

Up to 1847 agriculture was the main business in the town. Grist, saw and carding mills had existed, but they were small. In the year mentioned, Samuel Williston brought the button mill in which he had been interested in Haydenville to Easthampton and started its first real factory. The button business had been established in the town for several years but not on a factory scale. Williston had been a farmer in Easthampton in 1826 when his wife started sewing cloth covering on buttons by hand to eke out the family livelihood. This proved profitable and her business grew until she had many of the women of the town sewing cloth on buttons in their homes on a contract basis.

[30] Bacon, *op. cit.*, p. 422.
[31] Appendix, Table IV.

Williston decided to devote his whole time to managing the business. He induced two mechanics of Haydenville to invent and make machinery for making buttons. They succeeded, after several attempts, and the industry was moved to Easthampton in 1847. From that time onward, Williston, and Knight and Sawyer who had worked with him, brought textile, elastic web, rubber thread and other businesses to town and it grew as a manufacturing town. It will be noted that the opening of the "Canal Road" of the New York, New Haven and Hartford occurred in 1853 and it is probable that the rise of manufacturing around this date was more than a coincidence. The coming of the railroad gave transportation to the town and allowed it to secure raw material and the all-important power and to market its products.[32]

This sort of local enterprise, together with the fact that transportation was available and manufacturing lay all around them, was probably sufficient to turn the interests of people in these towns to industry. Here local water-power is undoubtedly of more importance than in the Springfield type.

The Hadley Type Towns

The figures for population in the five towns belonging in this type are shown in Table III. The census years 1870 and 1890 appear in this table in order to indicate the first peak in the growth of these towns and the bottom of the decline before the final upward swing. The total population in 1925 was 11,077 which was 2.4 percent of the total for the whole region.

TABLE III

Population of the Hadley Type Towns

Towns	*1800*	*1870*	*1890*	*1900*	*1925*
Deerfield (1)	1,531	3,632	2,910	1,969	2,968
Hadley (2)	1,073	2,301	1,669	1,789	2,888
Hatfield (3)	809	1,594	1,246	1,500	2,702
Sunderland	537	832	663	771	1,290
Whately	773	1,068	779	769	1,229

(1) Part annexed to Whately, 1810. Part annexed to Conway, 1811. Part annexed to Greenfield, 1896.

(2) Part annexed to Amherst, 1811, 1812, 1814. Part annexed to Northampton, 1850.

(3) Part annexed to Williamsburg and part of Williamsburg annexed to Hatfield, 1845, 1846.

[32] Most of this material on Easthampton is from Everetts, L. H., *History of the Connecticut Valley in Massachusetts,* Vol. 1, p. 276 et seq.

The five towns of this type are the only ones in the region that have shown a combination of growth in population and a consistent adherence to agriculture as the dominant interest. The growth of population is shown by Figure IX which gives a summary curve for the group.[33] The dominance of the agricultural interests throughout their history can be seen from the maps, Figures XVIII, XVIX and XX.

The causes for the lack of industrial growth are not difficult to see. There is no water-power in Whately, Sunderland or Deerfield and almost none in Hadley or Hatfield.[34]

The transportation situation is not distinctly unfavorable as each of these towns has railroad connections and each has through roads or access to them. None, however (unless it be Deerfield because of its nearness to Greenfield), has any particular advantage along this line. It is possible that, lacking agricultural wealth, some or all of these towns would have turned to manufacturing on a small scale as did Easthampton, but their unique advantages for agriculture in a region in which such conditions were rare, kept the minds of their people largely directed along agricultural lines.

Agricultural Resources

It will be noted that each of these towns lies almost wholly within the Valley proper, and on the flats directly adjacent to the Connecticut River.

[33] The curve for Deerfield requires some explanations. As it stands it does not resemble closely the curves for the other towns or the summary curve, especially since 1895. It will be noted, however, that it does resemble the other curves up to that date and the only marked difference since then is the pronounced drop between 1895 and 1900. In 1896 a portion of Deerfield adjacent to Greenfield was annexed to that city. (See *Census of Massachusetts,* 1905, Vol. 1, p. 828.) This evidently accounts for the drop, as gains were recorded for the census years on both sides of the drop. From that date on to 1925 the curve is similar to those of the other towns. Physical conditions are also generally similar and the crops raised are similar so it seems reasonable to assume that the curves would have been nearly exactly similar if it had not been for the boundary change. It will be noted from Table V in the Appendix that there is a larger proportion of population engaged in manufacturing in Deerfield than in any of the other towns of the group. Due to the change in area, the statistics in Tables IV, V and VI of the text relating to this town are not exactly comparable. The curve for Greenfield is not seriously affected by the change as Greenfield was already large enough to absorb it without much effect.

[34] See Figure XIII.

The soil [35] is especially favorable. It is largely of three types, the "Hartford Sandy Loam," the "Podunk Fine Sandy Loam" and the type called "Connecticut Meadows."

The "Hartford Sandy Loam" is fertile, dark-brown in color and usually quite fine in texture. It is especially suited to tobacco and truck production and is probably the best tobacco soil of the Connecticut Valley. There is a wide belt of this soil extending from the middle of Hatfield north through Whately and Deerfield on the west side of the river. It is found in much smaller areas east of the river, especially in the northern part of Hadley and the southern part of Sunderland. It usually occurs in terraces some distance back from the stream.

The "Podunk Fine Sandy Loam" is also found in terraces but these are usually lower than those of the "Hartford Sandy Loam." It differs from the latter soil largely in that it is finer. It is entirely under cultivation and yields large crops of truck and tobacco. The yield of the latter crop is larger than on the "Hartford Sandy Loam" but usually poorer in quality. This soil occurs most extensively east of the river in Hadley and Sunderland, although there is a narrow band of it west of the river.

The "Connecticut Meadows Soil" is a dark silt loam and, as the name indicates, is largely river-deposited and often subject to overflow. It is a trifle heavier than the "Podunk" soil. It is the best general farming soil of the valley and is especially desirable for onions, of which yields of 800 and 1000 bushels per acre are sometimes reported. Tobacco is also grown, giving large yields but generally poor quality. This soil is pretty generally distributed throughout these towns on both sides of the river although the largest continuous areas lie in Hatfield.

These soils are all found in some quantity in most towns of the region bordering on the river but nowhere else have the combination of lack of advantages for manufacturing and large extent of flat lands made them so important.

Changes in Agriculture

As their curves show, these towns, although largely agricultural, did not decline as a result of western competition in the first half

[35] The description of soils is taken from U. S. Department of Ag., "*Field Operations of the Bureau of Soils, 1903*," pp. 52–55.

of the 19th Century. The flat rich lands and relatively easy transportation enabled them to compete on favorable terms with western producers. When the coming of the railroad eliminated most of the profit in grain they turned to the production of beef [36] for which their rich meadow lands suited them and which had been of some importance here since very early times. When western beef began to compete seriously, they began to give their attention to dairying and the raising of tobacco.

Tobacco

This crop has had a marked influence on the recent history of population changes in these towns. When it was first introduced is not known, but small fields of it were grown in colonial times. It did not become an important crop until about 1850. Even at this time there were only 138,246 pounds of it produced in the whole state of Massachusetts.[37]

It will be noted that the steady growth of population which had been going on in these towns from the beginning continued on to approximately 1870. From roughly 1850 to 1870 expansion in tobacco, for which their rich, level lands were well-suited, had saved these towns from the slump which had come to other agricultural towns in the region. Then a reaction set in and, as shown in the population curves, the depression resulted in emigration. A contemporary, writing in 1879, described the situation in Hatfield as follows:

> "In the years of expansion, 1863 to 1874, the price of tobacco was high and every effort was made to develop large crops and to raise the most valuable kinds. . . . In the recent reduction of prices the business has of course declined, and, as in most other branches of industry, embarrassment has followed and considerable financial disaster." [38]

The variations in the amount produced, total value of the crop and average price per pound through the period of depression and recovery may be seen in Table IV. In 1875 the area produced nearly three million pounds with a value of over half a million dollars. The price at that time averaged eighteen cents a pound.

[36] Bidwell, P. W., "The Agricultural Revolution in New England," *Am. Hist. Rev.*, 1921, No. 4, p. 689.
[37] Commonwealth of Mass., *Statistics of Labor*, 1872, p. 23.
[38] Everts, *op. cit.*, Vol. I, p. 398.

TABLE IV

TOBACCO PRODUCTION—1875–1924—HADLEY TYPE TOWNS

	1875		*Ave. Price*
	Amount	*Value*	*Per lb.*
Hadley	837,956 lbs.	$185,420	$.22
Hatfield	897,750	155,248	.17
Sunderland	193,988	33,089	.17
Whately	375,873	51,198	.14
Deerfield	589,675	88,064	.15
	2,895,242	$513,019	$.18

	1885		*Ave. Price*
	Amount	*Value*	*Per lb.*
Hadley	545,653 lbs.	$ 55,813	$.10
Hatfield	929,993	99,938	.09
Sunderland	182,430	22,565	.13
Whately	279,603	28,577	.10
Deerfield	432,369	61,233	.13
	2,420,048	$268,126	$.11

	1895		*Ave. Price*
	Amount	*Value*	*Per lb.*
Hadley	769,154 lbs.	$ 78,711	$.10
Hatfield	1,553,294	157,912	.10
Sunderland	223,889	28,136	.12
Whately	432,387	41,138	.09
Deerfield	454,673	49,305	.11
	3,433,397	$355,202	$.10

	1905		*Ave. Price*
	Amount	*Value*	*Per lb.*
Hadley	1,793,666 lbs.	$192,258	$.11
Hatfield	2,132,128	301,204	.14
Sunderland	598,178	87,918	.15
Whately	893,182	110,463	.12
Deerfield	812,928 (1)	103,663 (1)	.13 (1)
	6,230,082	$795,506	$.13

	1924		*Ave. Price*
	Amount	*Value (2)*	*Per lb. (2)*
Hadley	2,826,900 lbs.	$565,330	$.20
Hatfield	3,044,478	608,896	.20
Sunderland	694,216	138,843	.20
Whately	717,000	143,400	.20
Deerfield	1,566,926 (1)	313,385 (1)	.20 (1)
	8,849,520	1,769,904	$.20

(1) The figures for Deerfield are not strictly comparable throughout this table because of a boundary change in 1896.

(2) The U. S. Census of Agriculture, 1925, gives only the amount of production. The figure for average value per pound is that quoted in

In 1885 both the amount and value had decreased and the price had fallen to eleven cents a pound. In 1895 the amount and value had increased again but the price had fallen to ten cents. By 1905 the amount produced was nearly double that of a decade previous, the value of the crop was the greatest yet known and the price had risen to thirteen cents. It will be seen from Figure IX that this depression and recovery coincided exactly with the drop and recovery in the population curve.[39] Since these towns are predominantly agricultural [40] and tobacco was then the principal cash crop, it seems reasonable to assume that the variations in population were largely due to the state of this principal source of income.

After 1905 the Census of Massachusetts ceased to publish agricultural statistics and the Federal Census has not done so by towns. The condition in 1924 as ascertained from unpublished figures from the United States Census of Agriculture, 1925, is shown in the table. At that time these towns produced nearly nine million pounds at an estimated price of twenty-cents a pound and the total value of the crop was close to two million dollars. There was a general rise in the price of tobacco from 1903 to the beginning of the World War.[41] In the years from 1917 to 1921 the average farm price ranged from thirty-eight to sixty-seven cents. Since that time the price has varied between seventeen and twenty-three cents.[42] The tendency therefore, has been toward expansion in the tobacco business in these towns since 1905 and, partly as a result of this expansion, the population has increased.

Onions

The recovery in population was coincident with the recovery in the tobacco business but was not due solely to that cause for, in the

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"Stocks of Leaf Tobacco, 1924," U. S. Census Bulletin 157, p. 21. It is the New England average, the price for Mass. not being given. The total value is arrived at by multiplying the amount by the New England average price.

Note: This table is based on the Census of Massachusetts for the years 1875–1905. The figures for 1924 are from unpublished statistics of the U. S. Census of Agriculture, 1925, except as noted above.

[39] See Figure IX.

[40] See Figures XVIII–XX and Appendix, Table VIII.

[41] U. S. Dept. of Ag., *Agriculture Yearbook*, 1922, pp. 443–444.

[42] 1917–1919 prices are from U. S. Bureau of the Census, *Stocks of Leaf Tobacco*, 1919, *Bulletin 143*, p. 28. The prices for 1920 and 1921 are from *Bulletin 149*, p. 25, those for 1922–1924 are from *Bulletin 157*, p. 21, and those from 1925 to 1928 are from *Bulletin 165*, p. 21.

TABLE V

ONION PRODUCTION—1875–1924—HADLEY TYPE TOWNS

	1875		
	Amount	*Value*	*Ave. Price Per bu.*
Hadley	3,204 bu.	$ 2,671	$.83
Hatfield	1,348	1,242	.92
Sunderland	11,995	10,417	.83
Whately	517	402	.78
Deerfield (3)	1,862	1,673	.90
	18,926	$16,405	$.84

	1885		
	Amount	*Value*	*Ave. Price Per bu.*
Hadley	3,627 bu.	$ 2,154	$.59
Hatfield	611	409	.67
Sunderland	32,952	19,871	.61
Whately	604	373	.62
Deerfield (3)	224	268	1.11
	38,018	$23,075	$.61

	1895		
	Amount	*Value*	*Ave. Price Per. bu.*
Hadley	42,532 bu.	$11,070	$.26
Hatfield	64,193	17,776	.28
Sunderland	153,792	39,294	.25
Whately	11,450	2,979	.27
Deerfield (3)	14,132	4,249	.29
	286,099	$75,368	$.26

	1905		
	Amount	*Value*	*Ave. Price Per. bu.*
Hadley	102,436 bu.	$ 45,767	$.45
Hatfield	235,107	116,230	.49
Sunderland	200,779	100,615	.50
Whately	62,380	30,348	.48
Deerfield (3)	75,099	38,147	.51
	675,801	$331,107	$.49

	1924		
	Amount (1)	*Value (2)*	*Ave. Price Per. lb. (2)*
Hadley	258,960	$ 476,486	$1.84
Hatfield	219,570	400,009	1.84
Sunderland	246,090	452,806	1.84
Whately	98,670	181,553	1.84
Deerfield	225,030	414,055	1.84
	1,048,320	$1,928,909	$1.84

(1) The amounts named here are estimates. They are arrived at by multiplying the acreage in each town as reported in unpublished figures for the

meantime, the people of these towns had found that their conditions were admirably suited to a new crop, onions.

The rise of this crop is shown in Table V. It was practically unimportant in 1875, the first year for which figures are available. By 1895 the amount of the crop had doubled but it was still unimportant except in Sunderland. There had been an increase in value during this period but proportionally not as great an increase as in quantity, for the price had fallen from eighty-four cents a bushel to sixty-one. By 1895, the increase had taken on the aspects of a "boom." The amount produced had increased six-fold and the value, four-fold. Meanwhile, the price had fallen to twenty-six cents. By 1905, the amount had more than doubled again, and with a rise in the price to forty-nine cents, the value had increased four-fold over that in 1895. The next figures available are those for 1924 which are estimates but probably fairly accurate ones. In that year over a million bushels were produced at a value of one dollar and eighty-four cents a bushel or a total value of nearly two million dollars.

There can be little doubt that it was the rise of the tobacco and onion industries to which their physical conditions were well adapted that led to increased population in these towns since 1875. These two industries required a great deal of back-breaking manual labor but paid rather high returns to those willing to perform it. The large yields due to the fertility of the soil and the intensive nature of the cultivation necessary were conducive to the tenant system and attracted large numbers of Poles, Austrians, Lithuanians and Russians who had little capital but were accustomed to intensive agriculture. These nationalities have contributed most of the population increase since 1880.[43]

U. S. Census of Ag. 1925, by the average production per acre for the state in the same year as shown in "The Connecticut Valley Onion Industry," *Mass. Exp. Station Bull. No. 227,* p. 44. These acreages were as follows: Hadley—664, Hatfield—563, Sunderland—631, Whately—253, Deerfield—577.

(2) The values are based on a price of $1.84 a bushel which was the yearly weighted average price to farmers for the U. S. as a whole as reported in U. S. Dept. of Ag., *Agriculture Yearbook,* 1925, p. 1367.

(3) The figures for Deerfield are not strictly comparable because of a boundary change in 1896.

Note: The figures for the census periods 1875–1905 are from the Census of Massachusetts for those dates. For source of 1924 figures see (1) and (2) above.

[43] See Table IX in the Appendix and the discussion in Chapter VI, pp. 87–89.

Land Values and Tenancy

It would seem that the rich lands and specialized agriculture of these towns should be reflected in relatively high land values and such is the case. Figures XV and XVI indicate that the only towns in which the average value of farm lands exceeds that in the Hadley type are those grouped around Springfield, the center of population and the largest market of the region.

TABLE VI

Land in Farms, Value of Land in Farms and Average Value Per Acre —Hadley Type Towns—1875 (1)—1925 (2)

	Acreage in Farms		*Value of Land in Farms*		*Ave. Value Per Acre*	
	1875	*1925*	*1875*	*1925*	*1875*	*1925*
Deerfield (3).....	17,308	16,111	$ 794,120	$1,375,650	$47	$ 86
Hadley	11,246	12,882	623,236	1,455,950	57	112
Hatfield	8,339	8,536	738,175	1,566,060	93	174
Sunderland	7,666	6,420	290,727	935,630	37	156
Whately	12,658	8,377	380,875	432,000	30	54
Total	57,217	52,326	$2,827,133	$5,765,290	$56	$111

(1) Figures for 1875 are from "*Census of Mass., 1875,*" Vol. III, p. 639. Values in 1875 were published in currency and have been reduced to gold at $1.12 to $1, the ratio used by the Census of Mass. for similar calculations for that date. (Vol. III, p. xviii.)

(2) Figures for 1925 are unpublished statistics of the U. S. Census of Ag., 1925, supplied by the American Geographical Society.

(3) Figures for Deerfield are not strictly comparable throughout because of a boundary change in 1896.

Table VI shows the details of land in farms, value of land in farms and average value per acre for 1875 and 1925 for each of these towns. This table is a striking example of the unsatisfactory nature of even so small a unit as the town for statistical purposes. For Deerfield, Sunderland and Whately, there appears to have been a decrease in land in farms and the average value of farm lands in these towns are probably much below the true figure for good onion and tobacco lands. The explanation for this can be seen by an examination of Figure X which shows the physiographic regions. It will be seen that much of the western part of Whately lies in the Upland, that Mt. Toby occupies a substantial part of Sunderland and that there are trap ridges in the eastern part of Deerfield. Thus, there are included in the figures for these towns,

lands which are not at all suited to the production of either onions or tobacco and are in reality more similar to the land of the Ashfield Type towns than those of the Hadley Type. These are the lands which have been abandoned [44] and, if still kept for pasture, their low values have affected the values for the towns in which they are located.[45]

It is probable that the figures for Hatfield are more nearly representative of the values of the good land, for Hatfield lies entirely in the Valley. It will be noted that it had an increase in land in farms between 1875 and 1925 and that the average value per acre increased from ninety-three dollars to one hundred and seventy-four dollars. This is an increase of 87 percent for the period. At the same time the purchasing power of money had changed somewhat. There is probably no single satisfactory index to the relative purchasing power of the dollar at different times but a conservative measure of the change is reflected in the index number of wholesale prices published by the United States Bureau of Labor Statistics.[46] This figure stood at 74 in 1875 and at 103.5 in 1925. Thus the increase in land values mentioned above was probably not really as great as it appears but was, nevertheless, substantial.

In a study of the onion industry of the Valley made in 1916, fine onion land was said to be worth three hundred dollars to five hundred dollars an acre and to rent from thirty dollars to fifty dollars per acre.[47]

It is not surprising that tenancy has become an important form of land tenure here where land is rich and expensive and yields are high, giving income enough from small areas to allow the tenant profit above his rent. Statistics from census sources are not available to show the exact percentage of tenancy in these towns but

[44] Relatives of the writer own over a thousand acres in the western part of Whately and the eastern part of Conway. This is entirely hilly land. Not over four or five acres are in crops and only about 100 acres, all told, are cleared sufficiently to be considered even fair pasture. Most of the land has reverted to forest although this aggregation represents what was once eight farms.

[45] In 1890 there were three abandoned farms in Whately with an average value of $10 per acre. No other town in the group contained any abandoned farms at that time. "Abandoned Farms in Mass.," *Report on the Statistics of Labor, Mass.,* 1890, pp. 186, 187.

[46] "*Statistical Abstract, 1929,*" pp. 324 and 325.

[47] Cance, A. E., Machmer, W. L., and Read, F. W., "Connecticut Valley Onion Supply and Distribution," *Mass. Ag. Stat. Bull. No. 169* (1916), p. 69.

there is evidence that it is quite extensive. Cance says, "In Massachusetts the proportion of tenants engaged in the growing of onions is much greater than in growing any other crop." [48] Abel, in his study of the Poles in Sunderland made in 1926 says, "83 percent of all foreign-born work on shares." [49]

Thus these towns, with their low, flat, rich lands and accessibility to market have prospered in agriculture and attracted agricultural peoples from Europe. They are the only towns in the region that depend almost solely on agriculture as a source of livelihood and, in addition, have had increasing population.

[48] Cance and others, *op. cit.*, p. 63.

[49] Abel, T., "Sunderland, A Study of Changes in the Group Life of the Poles in a New England Farming Community" included in Brunner, E. de S. (Ed.), *Immigrant Farmers and Their Children*, p. 217.

CHAPTER III

DECLINING POPULATION AND ITS GEOGRAPHICAL CAUSES

The towns to be discussed in this chapter are, perhaps, the most interesting of all in the region. It is characteristically American to expect growth—"bigger things." In the past such growth has been one of the most typical American phenomena. It is therefore all the more startling to realize that, in three counties alone of a small state like Massachusetts, there are twenty-five towns which, if they continue to decrease at the rate they have in the last one hundred years, will have no population at all by 1990! Some of these towns in 1800 had more than four times as many people as in 1925.

The distribution of these towns, which have been designated the "Ashfield Type," may be seen in Figure VI. A comparison of Figure VI with Figure X will show that all of these towns lie above the 500-foot contour. In other words, they are "hill towns." Several of these towns barely touch the valleys, and thus the railroads. In nearly every instance, however, their frontage on the valleys is steep and hilly, giving not only no room for agriculture or factories but, in most cases, not even for a railroad station. A glance at the topographic sheets will show for each of these towns why their valley-contacts are unimportant. The names of the towns with the topographic sheets (U. S. Geological Survey) follow: Rowe (Hawley), Wendell and Warwick (Warwick), Montgomery and Blandford (Cranville). For Greenwich and Prescott which have considerable valley land and the unimportant Athol Branch of the Boston and Maine Railroad, the conditions are slightly different. From the Belchertown sheet of the Geological Survey, it may be seen that most of the people of Prescott live in the mountainous part of the town and there is almost no settlement of the flat lands. Even in the town of Greenwich where more population resides in the valley, it does not appear from the distribution of dwellings that any considerable population is farming this land. The reason for the lack of use of this valley-plain is

TABLE VII

POPULATION OF THE ASHFIELD TYPE TOWNS—1800, 1850, 1900, 1925

Town	*1800*	*1850*	*1900*	*1925*
Ashfield	1,741	1,395	955	919
Blandford (1)	1,778	1,418	836	437
Brimfield	1,384	1,420	941	840
Chesterfield	1,323	1,014	611	443
Cummington	985	1,172	748	508
Goshen	724	512	316	251
Granville (2)	2,309	1,305	1,050	609
Greenwich (3)	1,460	838	491	450
Hawley	878	881	429	354
Heath	604	803	441	298
Holland	445	449	169	141
Leyden (4)	1,095	716	379	270
Middlefield	877	737	410	223
Montgomery	560	393	273	191
New Salem (5)	1,949	1,253	807	519
Pelham (6)	1,144	983	462	519
Plainfield (7)	797	814	404	282
Prescott (8)	—	737	380	230
Rowe (9)	575	659	549	292
Shutesbury (10)	930	912	382	208
Tolland (11)	—	594	275	150
Warwick	1,233	1,021	619	364
Wendell (12)	737	920	492	397
Westhampton	756	602	469	337
Worthington	1,223	1,134	675	429

(1) Part annexed to Huntington, 1853.
(2) Part established as Tolland, 1810.
(3) Part included in Enfield, 1816. Part of Enfield annexed and part annexed to Enfield, 1818.
(4) Part annexed to Bernardston, 1886.
(5) Part included in Prescott, 1822. Part of Shutesbury annexed, 1824. Part annexed to Athol, Worcester County, 1830. Parts annexed to Orange and Athol, 1837.
(6) Part included in Prescott, 1822.
(7) Part of Hawley annexed, 1803.
(8) Established, 1822.
(9) Part included in Monroe, 1822. Common lands annexed, 1838.
(10) Part annexed to New Salem, 1824.
(11) Established, 1810.
(12) Part of Montague and common lands annexed, 1803.

that it is composed almost entirely of infertile glacial gravel and sand.[50]

THE POPULATION CURVES

The phenomenon of "abandoned towns" in New England is a familiar one but it is probable that few have a true realization of when this abandonment set in. The summary curve for the group (Figure XIV) indicates that there was a sort of plateau in the

[50] Alden, W. C., *The Physical Features of Central Massachusetts,* Bull. 760B, United States Geological Survey, p. 82.

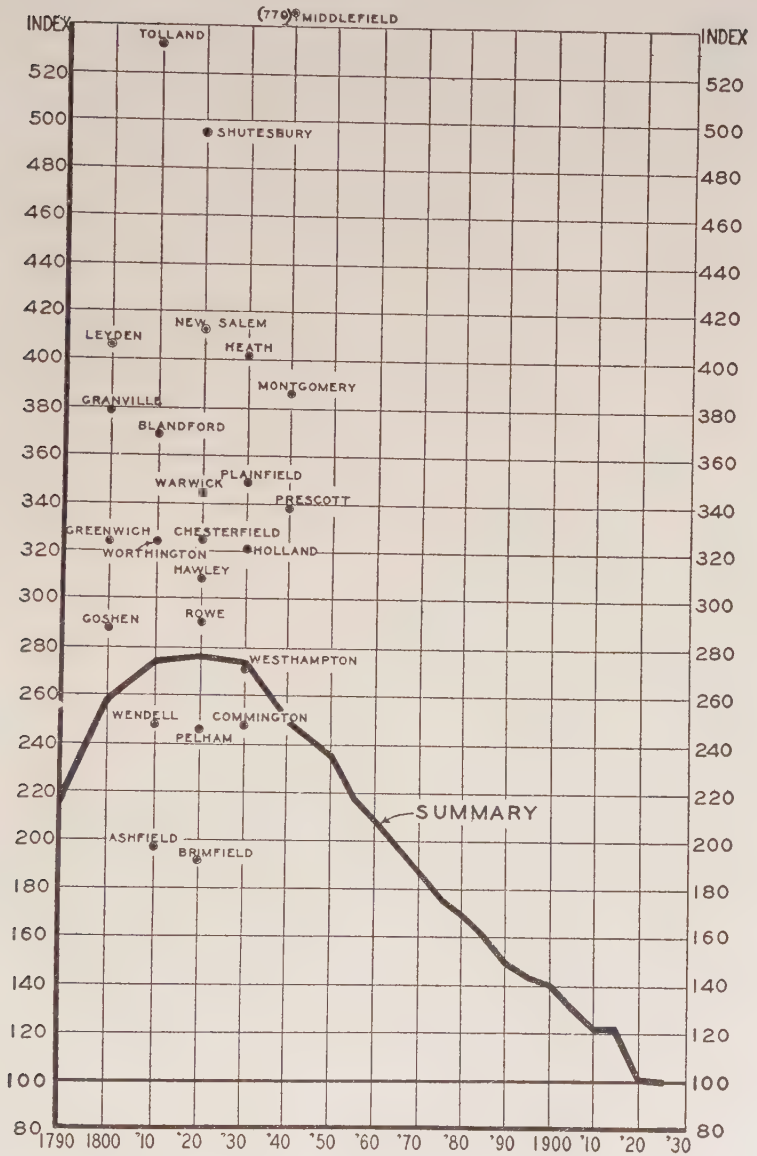

FIG. XIV. Summary Curve, Population Index Numbers, Ashfield Type Towns, 1790–1925. (Dots indicate year and index number of largest population for individual towns.)

curve from 1810–1830 and that since that time the decline has been steady and fairly rapid. It can be seen from an examination of the index numbers [51] that some towns started to decline at an even earlier date. Goshen, in Hampshire County, has been losing population ever since 1800. Greenwich and Granville, though geographically widely separated, had their peaks in that same census period and show remarkably similar curves since. 1820 might be set as a fair average date for the peak of population in these hill towns.

This tendency toward abandonment of the mountain towns was recognized at a very early date. Holland, writing in 1855, makes note of it in numerous instances and quotes one correspondent as saying of Wendell, in Franklin County:

> "It has been a great tavern house, where fathers and sons have rested for a few years on their way from the 'lower towns' to the West; and if the whole household did not go on, the sons were sure to,—except for the youngest, perhaps, who remained to inherit a worn-out farm—and the worn-out parents."

And then Holland remarks, "From this cause, and others that are operating upon nearly all the hill towns of New England, the population and prosperity of the town have considerably diminished." [52]

The Causes of the Decline

The reasons for the decline of population in these towns may be found directly in the nature of the physical environment. This has manifested itself in two ways. The first affects agriculture. The topography is so rough and the soil so poor in these Uplands that a living could be made in agriculture only with the greatest difficulty. The thin soil "wore out" in a very short time. As soon as better lands were available in the West, thousands of the hill farmers emigrated to them. With the coming of the railroads these better lands sent staple products to the New England markets at prices with which the hill farmers could not compete, thus further adding to the impetus to emigration.

The second effect of the physical environment in these towns

[51] Appendix, Table VI.
[52] *Op. cit.*, Vol. II, pp. 457–458.

lies in its influence on manufacturing, the occupation to which most of the towns with increasing population owe their growth. The topography of the Uplands made transportation difficult and expensive and confined the building of railroads largely to the through routes along the main lines of drainage. It was only along the lines of railroad that manufacturing could develop because it was only by means of the railroad that the majority of factories in the interior could reach their coal, their raw materials and their markets.

The two directions in which these physical handicaps operated resulted in two streams of population movement; one toward the better lands of the West and the other to the manufacturing industries which were springing up in the Valley cities.

The Competition of Western Lands

The story of the westward movement of the American People is too generally known to need repetition here. It will suffice to give a few indications of the part New England took in this migration. By 1770 all the best lands of the region had been taken up [53] and the most rapid gains in the next twenty years came in the hill towns. But young men of these towns learned of better lands in the Mohawk and Genesee countries through their service under Gates, Schuyler and Sullivan in the Revolution and some did not even wait for the end of the War to move their families . . ." for the lands to the west were unlike those of the coast states and the product of a year's labor seemed little short of marvelous to those who had wrung but a pittance from the stony soil of New England." [54]

With the close of the War, emigration was accelerated and the New Englanders poured into western New York, Pennsylvania and northern Ohio. Table VIII showing the increases in the population of New York and of the East North Central States will give some idea of the tremendous size of this migration.

The shifting of the "West" to which these people were migrating can be seen from the table. The greatest percentage of gain in any decade in the history of New York was 73.2 in the decade

[53] Mathews, L. K., *"The Expansion of New England,"* p. 252.
[54] Mathews, *op. cit.*, p. 252.

TABLE VIII

INCREASE IN POPULATION—NEW YORK AND EAST NORTH CENTRAL STATES, 1790–1860

	1790	*1800*	*% Inc.*	*1810*	*% Inc.*
New York	340,120	589,051	73.2	959,049	62.8
E. N. Central States (1)	—	51,006	—	272,324	433.3
		1820	*% Inc.*	*1830*	*% Inc.*
New York		1,372,812	43.2	1,918,608	39.8
E. N. Central States		792,719	191.5	1,470,018	85.5
		1840	*% Inc.*	*1850*	*% Inc.*
New York		2,428,921	26.6	3,097,394	27.5
E. N. Central States		2,924,728	99.0	4,523,260	54.6
		1860	*% Inc.*		
New York		3,880,735	25.3		
E. N. Central States		6,926,884	53.2		

(1) East North Central States include Ohio, Indiana, Illinois, Michigan and Wisconsin.

Based on *U. S. Statistical Abstract,* 1928.

1790–1800. In 1800 when New York already had over half a million people there were less than half a hundred thousand in all of the East North Central States. The next decade, however, showed a more than four-fold increase in the population of these states. For each decade from then on to 1840 their population doubled or nearly doubled.

Massachusetts contributed liberally to this migration as shown by the Census of 1850 which was the first to show the origins of the population of each state. The number of persons born in Massachusetts and living in each of several "Western" States at that time was as follows:[55]

Living in	*Born in Mass.*
New York	55,773
Ohio	18,763
Illinois	9,230
Michigan	8,165
Pennsylvania	7,330
Wisconsin	6,285
Total	105,548

[55] *U. S. Census,* 1850, p. XXXVI.

While this number does not appear large in terms of present populations of those states, or of Massachusetts, it represented a considerable proportion of the population of the latter state at the time of migration. It is probably not safe to assume that this population was all of the same age, but it may be interesting, for the sake of comparison, to do so. If all of those people were exactly thirty years of age, their numbers represented 20.3 percent of the total population of Massachusetts at the time of their birth, for there were then (in 1820) but 523,287 persons in the state. In other words, one out of every five persons in the Commonwealth in 1820 was destined to emigrate to one of the six states enumerated above. If it is assumed that they were all at least twenty years of age, the ratio is not much smaller for the population in Massachusetts in 1830 was 610,408, or a little less than six times the number of its natives dwelling in the states named in 1850.

It was undoubtedly the poorer hill districts that were the largest contributors to this exodus.[56]

To the farmer of these stony Uplands, the richer and flatter lands of the West made an especial appeal. In the fertile Valleys agriculture held its own, even in face of Western competition and in the fifty-five years between 1820 and 1875, the number of people engaged in that pursuit in the lowlands actually increased. In all towns of the group under discussion there was a decrease in numbers engaged in agriculture between 1820 and 1875 with the exception of Leyden and Hawley.[57]

Effects of the Railroads on Agriculture

The migration taking place before 1840 was due almost entirely to the relative ease of winning a direct living from the land in the western regions as compared with the difficulty in the rough Uplands. The keynote of the farming of that day was self-sufficiency and Western lands were attractive in that period not because of any superiority for raising crops for market but because self-suf-

[56] Holland says in speaking of Heath, "About 1832 the town seems to have attained its highest prosperity. . . . Since that day emigration has done its work in Heath, as it has in most of the mountain towns." *Op. cit.*, Vol. II, p. 384. Mathews, *op. cit.*, p. 180, describes a wholesale emigration from Granville to settle Granville, Ohio. See, also, the quotation from Holland re Wendell on p. 44.

[57] See Figure XXIII, Chap. V.

ficiency was easier there. Farms along navigable water had been engaged in a modified commercial farming for some time prior to 1840 but relatively few farms were so situated.

The coming of the railroads in the 1840's had a profound effect on the agriculture of western Massachusetts as, indeed, it had on that of the whole East. The railroads contributed to the growth of manufactures and hence of centers of population which offered a market for farm products.

"When industrial development opened markets in New England, her agriculture changed from the subsistence stage to an enlarged production of cereals, sheep and beef cattle. The opening of communication with western New York in the forties, destroyed this new agriculture and by 1870 filled New England with abandoned acres and sent her sons in great numbers toward the cities and the West." [58]

The towns of the Ashfield type were particularly ill-suited for commercial farming. Their soil was so poor and cultivation so expensive because of topographic difficulties that they could not compete in staple products with the flatter and richer lands of the West whose products were brought even into the interior Eastern markets by the new railroads. Their distance from the railroads and the manufacturing centers, and the difficulty and expense of hauling by wagon over the rough terrain, prevented them from growing specialty crops which, because of distance and perishability, the West could not send into Eastern markets. This branch of agriculture became the especial field of the Valley farms located close to the manufacturing centers. It does not appear surprising, therefore, that those few towns which had managed to keep on growing up to 1840 declined after that date.

Measures of Recent Decline

In the more recent times there is something approaching a quantitive measure of the decline. The decreases in population engaged in agriculture continued from 1875 to 1920 as they had in the previous fifty-five years.[59] During this later period, comparative land values are available to give a measure of the relation of man to his physical resources here and the value he places on them.

[58] Craven, A. O., "The Abandoned Farms of New England." *Annual Rept. Am. Hist. Assoc.*, 1922, Vol. I, p. 353.

[59] See Figure XXII, Chap. V, and Appendix, Table VIII.

TABLE IX

LAND IN FARMS, TOTAL VALUE OF LAND IN FARMS AND AVERAGE VALUE PER ACRE, 1875 (1)–1925 (2)

Ashfield Type Towns

Town	*Land in Farms (Acres)* 1875	1925	*Value of Farm Lands* 1875 (1)	1925	*Average Value Per Acre* 1875 (1)	1925
Ashfield	21,895	23,714	$ 280,451	$ 435,300	$13	$18
Blandford	27,440	15,197	286,700	219,950	11	15
Brimfield	19,048	16,728	264,825	293,475	14	17
Chesterfield	16,473	13,663	161,974	144,900	10	10
Cummington ...	13,711	11,816	163,034	124,400	12	10
Goshen	9,651	7,793	105,808	112,400	11	14
Granville	22,073	13,925	174,438	190,930	8	15
Greenwich	11,589	5,252	126,513	61,150	11	16
Hawley	16,096	12,667	119,522	129,700	7	10
Heath	13,523	10,110	111,804	113,570	8	11
Holland	6,885	3,468	68,044	36,485	10	12
Leyden	10,558	8,700	163,110	79,000	15	9
Middlefield	13,436	9,985	98,002	95,550	7	10
Montgomery ...	7,563	5,324	72,966	59,200	9	12
New Salem	14,446	7,811	137,389	126,065	10	16
Pelham	15,207	5,396	123,994	122,525	9	25
Plainfield	11,961	10,659	100,248	125,500	9	12
Prescott	8,948	3,650	112,754	61,500	13	16
Rowe	12,990	9,469	110,212	101,150	8	11
Shutesbury	11,709	3,982	94,541	63,925	8	16
Tolland	16,920	5,481	83,486	52,570	5	11
Warwick	14,988	4,518	108,438	58,450	7	12
Wendell	8,648	5,507	55,604	80,950	7	14
Westhampton ..	15,817	9,626	197,095	147,960	13	15
Worthington ...	19,637	19,843	189,694	179,300	10	9
Total	351,211	244,294	$3,510,646	$3,235,905	$10	$13

(1) Figures for 1875 are from *Census of Mass.*, 1875, Vol. III, p. 639. Values in 1875 were published in currency and have been reduced to gold at $1.12 to $1, the ratio used by the Census of Mass. for similar calculations for that date (Vol. III, p. XVIII).

(2) Figures for 1925 are from unpublished statistics of the U. S. Census of Ag., 1925, supplied by the American Geographical Society.

Table IX shows the land in farms, value of land in farms and average value per acre for each town of the Ashfield type in 1875 and 1925. The increase in average value per acre in most towns appears at first glance to indicate increased agricultural productivity. The figures for value per acre should, however, be read in conjunction with those showing the amount of land in farms at each of these periods. The almost universal large decrease in the number of acres classified as being in farms indicates a con-

tinuing abandonment of farms and their return to forest. There can be little doubt that it was the poorer farms with the lowest proportion of workable lands in them which were so abandoned. By eliminating these farms and retaining only the best, the figure for the average value of each acre remaining is increased. This can be readily seen from an examination of the figures for several of the towns. Pelham, for instance, has an increase in average value of land in farms per acre of from nine dollars in 1875 to twenty-five dollars in 1925. The figures for land in farms show, however, that the acreage actually measured declined from 15,207 in 1875 to 5,396 in 1925. Another instance of apparently large percentage gain in value appears in the figures for Tolland. Here there was an increase from five dollars to eleven dollars per acre but it was accompanied by a decrease in land included in farms from 16,930 acres to 5,481 acres. On the other hand, Worthington which had a slight gain in land included in farms showed a slight decrease in the average value of its farm lands. For the region as a whole the average value of land in farms increased from ten dollars to thirteen dollars but was accompanied by a decline in the amount of land in farms and the total value of all farm lands.

Here again, however, the change in the value of the dollar must be taken into account. The average increase in land value for the region over the period was 33.3 percent. The index number of wholesale prices increased by 29.5 percent at the same time. There was therefore no considerable increase in values and when the changes in the amount and nature of the land measured are considered, these figures probably represent an actual decline.

Abandoned Farms

Another approach to the picture of decline in agriculture may be made through an examination of the results of a study of abandoned farms made by the Commonwealth Bureau of Statistics of Labor in 1890.[60] Insofar as the results apply to the Ashfield type towns, they are presented in Table X.

[60] Commonwealth of Mass., *Report on Stat. of Labor,* 1890.

TABLE X

ABANDONED FARMS—ASHFIELD TYPE TOWNS—1890

	No.	*Acreage*	*% All Acres in Farms in 1885*	*Ave. Value Per Acre Est.*
Ashfield	15	2,050	8.26	$ 6.00
Blandford	21	3,652	12.07	5.00
Brimfield	13	1,487	6.77	5.00
Chesterfield	41	3,599	22.24	8.00–10.00
Cummington	9	956	6.35	10.00
Goshen	—	—	—	—
Granville (1)	—	—	—	—
Greenwich	4	450	4.13	4.00– 6.00
Hawley	24	2,629	13.83	—
Heath	7	616	3.91	7.00
Holland	15	961	14.02	6.51
Leyden	—	—	—	—
Middlefield	13	1,800	11.65	5.00– 6.00
Montgomery	—	—	—	—
New Salem	8	395	2.01	14.00
Pelham	10	577	4.55	—
Plainfield	19	1,933	15.53	5.63
Prescott	9	569	6.25	8.00
Rowe	5	625	2.88	4.50
Shutesbury	32	2,563	18.21	8.00
Tolland	6	1,450	8.26	3.00
Warwick	56	4,041	18.78	5.00
Wendell	39	3,100	17.64	2.50
Westhampton	28	3,500	22.01	4.50
Worthington	10	1,387	6.31	—
Total	394	39,340		$ 2.50–10

From "Abandoned Farms in Mass., 1890," *Report on the Statistics of Labor, Commonwealth of Mass.*, 1890, pp. 184–187.
(1) No report made.

As can be seen, only two [61] towns of the group had no abandoned farms at that time. In the others the ratio between the land in abandoned farms in 1890 and all land in farms at the Commonwealth Census of 1885 ranged from 2.01 percent to 22.24 percent. The estimated value of this land per acre was, in all but two cases (New Salem and Shutesbury), considerably lower than the average value per acre of land in farms in 1875 as presented in Table IX. This would seem to indicate that, if the land which had been abandoned over the fifty-year period between 1875 and 1925 were included in the estimates, the average value of an acre of land in most of these towns would be ridiculously low.

[61] Granville made no report.

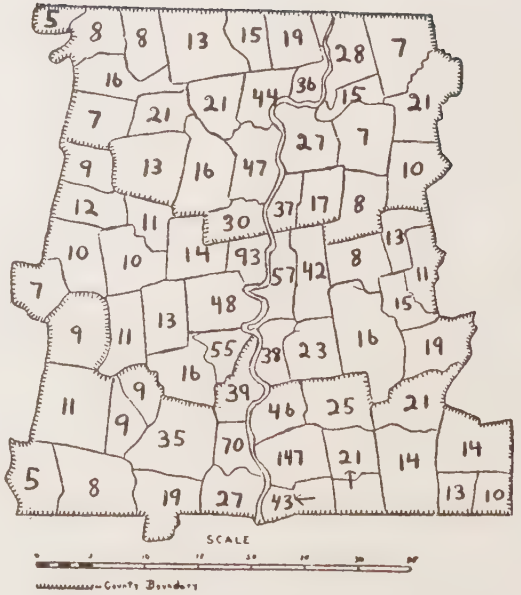

FIG. XV. Average Value in Dollars Per Acre of Land in Farms, 1875.

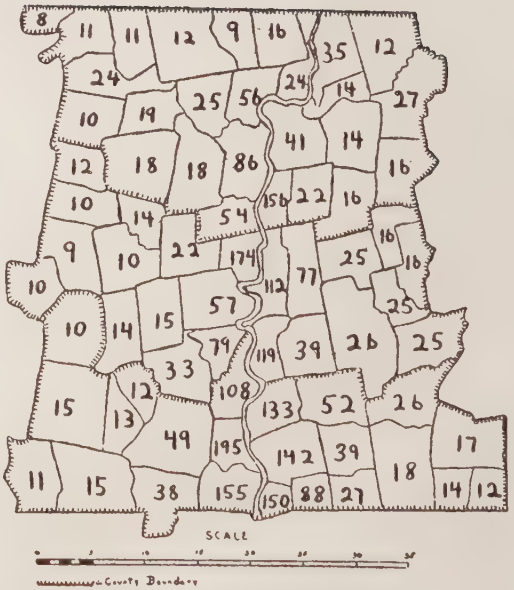

FIG. XVI. Average Value in Dollars Per Acre of Land in Farms, 1925.

Variations in the price of land in farms per acre in a region throughout which climate does not vary much should reflect variations in the suitability of that land due to topography, soil and location. That the correlation is very close in these three counties can be seen from the two maps of average value of land in farms per acre by towns in 1875 and 1925 (Figures XV, XVI). It will be seen that in general the lowest values are in the towns of the Ashfield type and the "Unclassified" towns are next. The highest values are in towns of the Springfield and Hadley types, as might be expected.

Effect of Railroads on Manufactures

The period up to the coming of the railroad was the "golden age" of the small manufacturers in the United States. With the poor transportation conditions then existing, raw materials and coal could not be carried any great distance at a profit and the small mill supplied its home market and sent small quantities of its valuable finished product to not-far-distant markets. Clark says:

". . . manufactures distant from navigable waters were confined to households, or to small mills obtaining raw materials and supplying markets in their immediate neighborhood." [62]

With the coming of the railroads in the 1840's, however, "commercial manufacturing" as well as commercial agriculture resulted.

"It was not until 1840 that the factory method of manufacture was widely introduced in miscellaneous industries and began gradually to force from the market the hand-made products with which every community had hitherto supplied itself." [63]

Thorp does not relate this change directly to the coming of the railroads and neither does Bogart [64] when he makes a similar statement but there seems to be little doubt that there was such a relation. It is interesting to note in this connection that most of the industries which Holland mentions as being important in Springfield in 1855 had been in existence only since the completion of the railroad.

[62] Clark, V. S., *History of Manufacturing in the U. S. 1607–1860* (1929 edition), Vol. I, p. 336.
[63] Thorp, W. L., "The Integration of Industrial Operation," *Census Mon. No. 3* (1924), p. 22.
[64] Bogart, E. L., *Economic History of the United States,* p. 163.

The town with no railroad connections was limited to a restricted market for its products, its power resources were only those of its waterfalls, its raw materials must be available on the spot. For the town on the railroad, however, wider markets, more power, and more raw material were available, and, as a consequence, they grew while those in the remote hill regions either remained stationary or declined.

A prominent citizen of Barre, a hill town in Worcester County just east of Greenwich and Prescott, in an address welcoming the members of the Massachusetts Board of Agriculture to that town in 1873, stated the situation as follows:

"We are strictly an agricultural community and have but little mechanical or manufacturing interests. These interests have not grown up here and are probably not more extensive than twenty years ago; but it is not for want of natural facilities to be found in the abundant water-power of our streams but our distance from easy communication with the channels of trade has shut out capitalists, and we have thus been left as a strictly rural people without any home market at our door." [65]

The towns of the Ashfield type seem, therefore, to have been as unsuited to manufacturing as to agriculture and for one of the same reasons, poor transportation resulting from unfavorable topography.

Migration to the Valley Towns

The lack of opportunities in these towns and the growth of opportunities in the rising manufacturing towns in the valleys and along the railroads caused another type of migration. This was

". . . the wholesale desertion of the farms by the younger generation. Not only the farmer's daughters, but the farmer's sons as well, were leaving their homes throughout this period to seek their fortunes as clerks and factory operatives in the growing urban communities." [66]

In 1875, the Commonwealth Census published figures showing the number of people living in each town or city who were born in other towns in Massachusetts. The figures for these three counties by groups of towns were as follows: [67]

[65] Thos. P. Root, Esq., in *Agriculture of Massachusetts*, 1873, pp. 14–15.
[66] Bidwell, P. W., "The Agricultural Revolution in New England," *Am. Hist. Rev.*, 1921, No. 4, p. 700.
[67] *Census of Mass.*, 1875, Vol. I, pp. 276–278.

Living in	*Born in other towns in Mass.*
Ashfield Type Towns	6,001
Springfield Type Towns	14,328
Northampton Type Towns	14,630
Hadley Type Towns	2,232

It is evident that the eight towns of the Springfield Type and the thirteen towns of the Northampton Type were exerting a strong attraction on the population of other towns. The Ashfield Type towns, though twenty-five in number, attracted a very small number. There is no means of determining definitely the ages of these people born in other towns of Massachusetts and living in the Ashfield Type but it is altogether probable that they were the older people, many of whom had come into these towns before 1840 and had remained after the younger members of the community had left. This would seem to be the situation described by Holland's correspondent in the quotation on page 44. The Springfield and Northampton Types seemed to have attracted large numbers and undoubtedly many of them came from the towns of the Ashfield Type.

Migration to the Valley Agricultural Towns

There is another aspect of this migration to the Valleys that has been little noticed in the past. It will be seen that the Hadley Type towns had a considerable number of people located within their borders who had been born in other towns in the state. These were among the oldest settled towns in the region so that these people could not have been remnants of early settlers. There has never been much manufacturing in any of these towns and their attraction must have been purely agricultural. It is altogether probable that some of the more ambitious farmers who had succeeded, relatively, in the hill towns, moved to the valleys where better land nearer the markets was to be had, although the price was relatively high. A statement to this effect was made in an address before a meeting of the Massachusetts Board of Agriculture in 1873.

"Many men have left the remoter regions for the professions, for service in counting rooms, and on railroads and in manufactories; but many have also left the farming of those regions for the more careful, intricate and

profitable work of tilling the land for specific purposes. No farm fortunately situated as regards markets in New England has yet been deserted. . . ." [68]

The General Effect of Improved Transportation on These Towns

The introduction of the electric trolley-car, and the automobile and the construction of concrete roads seems to have had little effect in halting the decline of these towns. As Figure XII shows, the through roads followed much the same routes as the railroads and increased the relative advantage of the Valley towns. It is no wonder that these hill towns, once started to decline, have continued at about the same annual rate of loss down to the present.

There is a "principle" that every improvement in the means of transportation tends to increase the advantage of the favorably situated region over that less favorably situated. It has been stated by Huntington and Williams as follows:

"Thus the effects of relief, soil, climate, vegetation, sparsity of population, and any other factors which hinder transportation tend to become more and more accentuated, and to increase the contrasts between more and less favored regions only a few miles apart. The growth of civilization may increase rather than diminish the power of geographical environment to cause one place to differ from another." [69]

Some such idea seems to have been in the mind of Holland when he wrote, in 1855:

"The facilities of travel and the opening of new avenues of business tell very powerfully on the sterile, mountain towns." [70]

Table IX indicates that there was a decrease in the total value of farm land in seventeen towns and for the type as a whole. If the money value of farm land is an index of its usefulness, this trend would seem to indicate that this region as a whole has declined in usefulness in the fifty years covered by the figures of the

[68] Loring, C. E., Address on "New England Farming," *Agriculture in Mass.*, 1873, p. 15.
[69] *Ibid., Business Geography,* Second Edition, p. 165.
[70] Holland, *op. cit.,* Vol. II, p. 111.

table. This is in spite of a general increase in the index number of wholesale prices of all commodities from 74 in 1875 to 103.5 in 1925.[71]

The period covered was marked also by the introduction of the electric trolley car and the automobile. The population of the three counties more than doubled in these fifty years. All these influences were incapable of stopping the decline of these towns and it is probable that each improvement merely increased their relative disadvantages due to isolation, rough topography and poor soil.

[71] *U. S. Statistical Abstract*, 1929, pp. 324 and 325.

CHAPTER IV

TOWNS WITH NO GENERAL TREND

It will be seen from Figure VI that twenty towns have been left unclassified. It is obvious that there will be towns in any region which do not fit exactly into any group, although some of them may be similar in some respects to those in one group or several. These towns had a total population of 27,157 in 1925 or 5.1 percent of that for the region. It does not appear that any increase in the accuracy of the picture of population changes here would accrue from forcing these towns into one group or another. In fact, it would detract considerably from the value of any classification made. The curves for these towns appear in Figure XVII. The population at various dates is given in Table XI.

TABLE XI

POPULATION IN THE UNCLASSIFIED TOWNS—1800, 1850, 1900, 1925

Towns	*1800*	*1850*	*1900*	*1925*
Belchertown (1)	1,878	2,680	2,292	2,905
Bernardston (2)	780	937	792	844
Buckland (3)	1,041	1,056	1,446	1,555
Charlemont (4)	875	1,173	1,094	820
Chester (5)	1,542	1,521	1,450	1,514
Colrain	2,014	1,785	1,749	1,562
Conway (6)	2,013	1,831	1,458	931
Enfield (7)	—	1,036	1,036	749
Gill	700	754	1,015	918
Granby	786	1,104	761	810
Hampden (8)	—	—	782	632
Leverett	711	948	744	664
Monroe (9)	—	254	305	143
Northfield (10)	1,047	1,772	1,966	1,821
Orange (11)	766	1,701	5,520	5,141
Shelburne	1,079	1,239	1,508	1,538
Southampton (12)	983	1,060	1,012	916
Southwick	867	1,120	1,040	1,267
Wales	774	711	773	434
Williamsburg (13)	1,167	1,537	1,926	1,993

(1) Part included in Enfield, 1917.
(2) Part of Greenfield annexed, 1838. Part of Leyden annexed, 1886.
(3) Part of Conway annexed, 1838.

Several groups of from two to five towns might be made without forcing a classification extremely but it is probably unwise to make classifications out of too small a number, especially if one or two towns of the group are considerably larger than the others. It will be recalled that the Hadley type described in Chapter III contained only five towns but their curves were almost exactly alike, their soil, topography and industries were similar, and the towns exactly contiguous so the grouping would appear to be a reasonable one.

The Location of the Towns

The wide distribution of these towns would seem to indicate a total lack of any unity in physical conditions which might give rise to the large population fluctuations that obtain. This is true, and yet, it may be possible that their very variety of physical conditions may be of significance in accounting for the fact that they do not fall into any of the other groups.

In more senses than one they are largely "transition" towns. This is especially noticeable in, and on the borders of, the valley of the Deerfield River. Here the valley gives access to transportation and small amounts of water power but the bulk of the area of each town lies in the rough Uplands. Some of these towns such as Shelburne, Buckland, Conway and Colrain "straddle" the 500-foot contour while others, noticeably Charlemont and Monroe, touch the valley where it lies entirely above an altitude of 500 feet. Chester, in the Westfield Valley, answers this same description, as do Orange in the Miller's Valley and Enfield and Belchertown bordering the Chicopee and its tributaries. Hampden, Bernardston, Southampton, Leverett and Northfield lie partly in the Connecticut Valley Lowland and partly in the Upland. Gill, Southwick

(4) Part of Common Lands called Zoar annexed, 1838.
(5) Part annexed to Norwich, 1853.
(6) Part annexed to Buckland, 1838.
(7) Founded in 1816 from parts of Belchertown and Greenwich.
(8) Founded in 1878 from part of Wilbraham.
(9) Founded in 1822 from a part of Rowe.
(10) Part annexed to Erving, 1860.
(11) Part annexed to Athol, Worcester County, 1816. Common Lands annexed 1837. Part of New Salem annexed, 1837.
(12) Parts of Easthampton annexed, 1841 and 1850.
(13) Part annexed to Hatfield and part of Hatfield annexed, 1845, 1846.

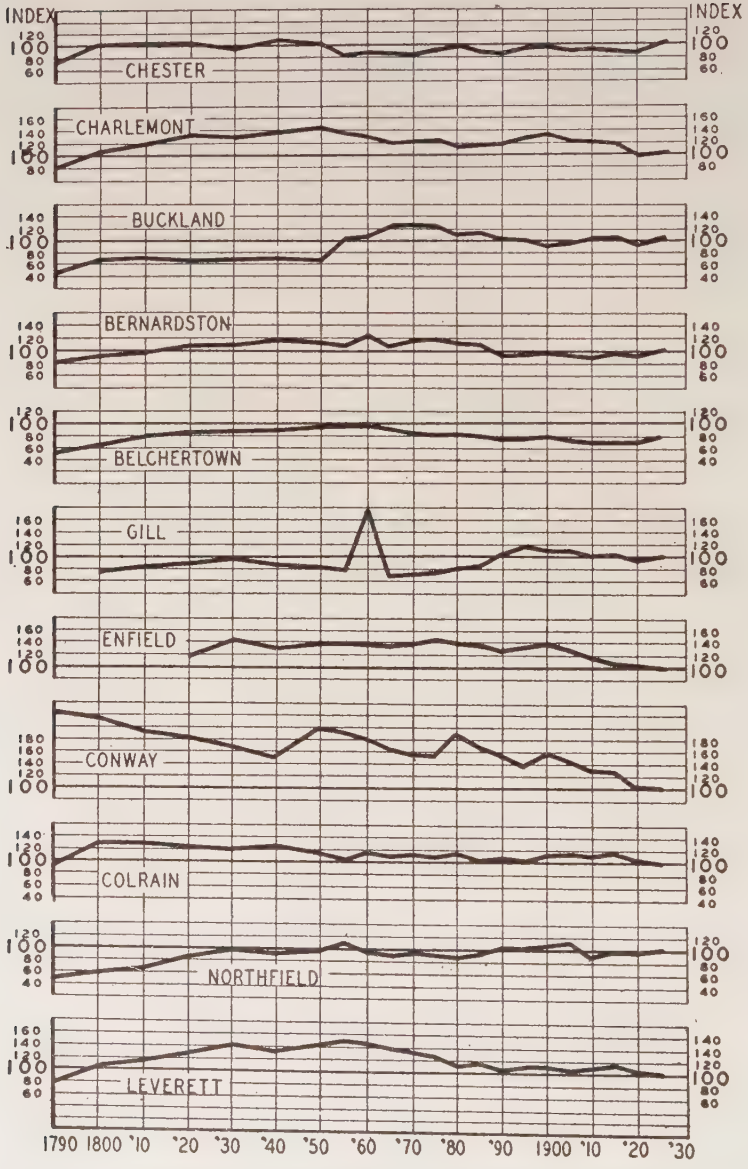

FIG. XVII. Population Index Numbers, Unclassified Towns, 1790–1925.

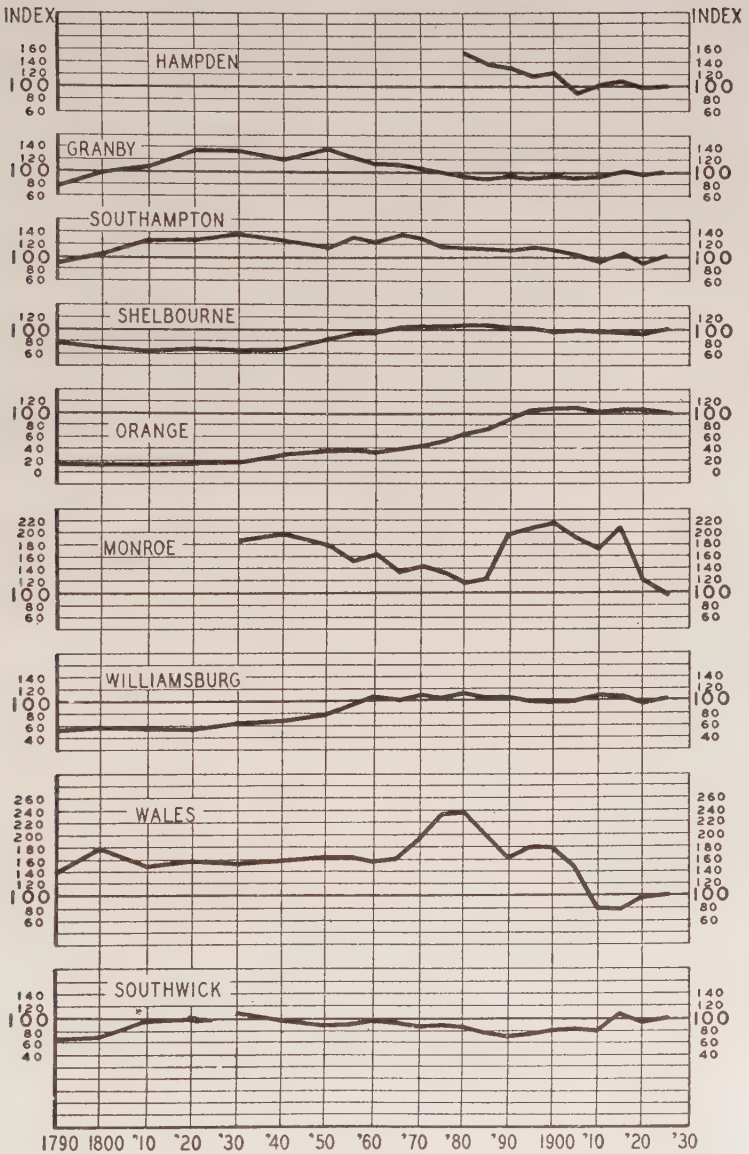

FIG. XVII (Continued). Population Index Numbers, Unclassified Towns, 1790–1925.

and Granby lie largely in the Valley but contain extensive areas of poor soil.[72]

It will also be seen that, with the possible exceptions of Hampden and Monroe, none of these towns constitute "islands" completely surrounded by towns of any one of the definite classes. They appear to have a location between towns of various classes. This also seems significant of the "transition" nature of this miscellaneous group.

Occupations

Table XII shows the number of people in each of these towns engaged in agriculture and in the manufacturing and mechanical

TABLE XII

Population Engaged in Agriculture and in Manufacturing

Unclassified Towns—1920

	Agriculture	*Manufacturing*
Belchertown	442	230
Bernardston	116	60
Buckland	122	284
Charlemont	128	70
Chester	81	177
Colrain	250	331
Conway	184	93
Enfield	113	111
Gill	123	135
Granby	188	53
Hampden	138	34
Leverett	144	75
Monroe	15	42
Northfield	234	113
Orange	148	1,350
Shelburne	127	208
Southampton	203	85
Southwick	298	91
Wales	54	111
Williamsburg	144	389
	3,172	4,042

Note: This table is based on unpublished statistics from the 14th Census of the U. S. which were kindly supplied by the U. S. Bureau of the Census. See Appendix, Table VIII.

industries in 1920. Again, it would appear that these are "transition" towns. Very few of them are either overwhelmingly agri-

[72] See U. S. Dept. of Ag., *Field Operations of Bureau of Soils,* 1903, pp. 43–58.

cultural or overwhelmingly manufacturing. It will be seen from Chapter V that the towns with a steady loss of population from an early date are almost exclusively agricultural and all but five of the towns with generally increasing population are predominantly manufacturing. Table XII indicates that all of these towns have relatively substantial numbers of people engaged in each of the occupations. The totals for the group will be seen to be fairly well balanced.

Analysis of the Curves

The dual nature of these towns appears from their population curves. With the exceptions of Belchertown and Orange, they seem to start like the Ashfield type of agricultural hill towns. That is, they rise to a peak or plateau in the first three or four decades of the nineteenth century and then start to decline. Then something happened to rejuvenate them. In most cases this probably marks the coming of the railroad in the 1840's and 1850's. Where the new form of transportation did not encourage manufacturing, the large numbers of people engaged in railroad construction or repair either swelled the population totals or else offered a market for agricultural products.[73] The large number of towns which are located along lines of railroad has already been pointed out.

In the towns having some manufacturing, that occupation was, in many cases, sufficient to prevent the slow but consistent drop which has usually been characteristic of the agricultural towns with similar situation and physical conditions. As can be seen from the numbers engaged in manufacturing in these towns, factories have not been large. Some examples from the 1905 Census of Massachusetts[74] may be interesting as mere samples. In Bernardston the 53 employes in manufacturing establishments at that time were distributed among 6 establishments, in Buckland 271 among 8, in Shelburne, 1000 among 10, in Orange 1,100 among 29, in Chester 82 among 10, in Enfield 191 among 5. Some of these towns had so few establishments that the census did not give statistics for them for fear of disclosing the details of private

[73] For instance, the boom in Buckland, Monroe, Shelburne, and Charlemont in 1875 was attributed in the census of that year to the number of men engaged in the improvements under way on the Troy and Greenfield Railroad, Vol. I, pp. 761–762.

[74] Vol. III, p. 19 et seq.

businesses. This was true in 1905 of Monroe, Hampden and Wales.

Among plants of this size mortality is high, especially in periods of financial stress. For instance, the Census of Massachusetts for 1885,[75] a year of depression, lists the following causes for population decline:

Bernardston—" The removal of a small shoe factory. . . ."
Buckland—" Depression in the manufacturing establishments. . . ."
Colrain—" Financial embarrassment at one of the cotton mills. . . ."
Chester—" Due to the destruction of a large woolen mill. . . ."
Wales—" Due to the burning of one of the largest mills. . . ."
Belchertown—" Due to the partial suspension of business by the manufacturers. . . ."
Enfield—" Owing to the dullness of the manufacturing business. . . ."
Williamsburg—" The suspension of business at the cotton mill and the butter works. . . ."

The completion of railroad construction and repairs and the withdrawal of the workmen is stated as the cause for loss of population in Charlemont and Conway.

The fluctuations in the prosperity of the small manufacturing plants due to fire, financial depression or other causes probably account for the violent fluctuations noticeable in some of the population curves.

Land Values and Abandoned Farms

It might well be expected that land values would be higher in these towns than in those of the Ashfield Type and that the general conditions of agriculture would be somewhat more favorable due to the fact that many of these towns are located on railroad lines where access to market was easier than in the remote hill regions and that several of them lie wholly or partly in the Valley Lowland.

Table XIII, giving the land statistics for this group, indicates that this is the true state of affairs. It should be compared with Table XII which shows similar information regarding the towns

[75] Part I, pp. 88–91.

of the Ashfield Type. The amount of land in farms was greater in the Ashfield Type than in the unclassified towns in 1875 but in 1925 was smaller. The total value of the land in this group was higher than that in the Ashfield Type at both of the dates for which figures are given. In the Ashfield Type the decline in acreage was accompanied by a decline in total value. In these towns the total value has increased. The average value per acre in the Ashfield

TABLE XIII

LAND IN FARMS, VALUE OF LAND IN FARMS, AND AVERAGE VALUE PER ACRE

Unclassified Towns—1875 (1) and 1925 (2)

	Land in Farms (Acres)		*Value of Land in Farms*		*Average Value Per Acre*	
	1875	*1925*	*1875 (1)*	*1925*	*1875 (1)*	*1925*
Belchertown ...	27,354	24,636	$ 164,124	$ 657,915	$16	$26
Bernardston	12,610	10,574	239,590	181,415	19	16
Buckland	10,911	11,566	229,131	222,510	21	19
Charlemont	16,859	14,016	269,744	322,540	16	24
Chester	19,740	16,300	177,660	154,450	9	10
Colrain	23,096	25,919	300,248	319,700	13	12
Conway	23,380	16,776	374,080	298,200	16	18
Enfield	10,636	7,946	159,540	200,500	15	25
Gill	8,489	8,698	304,904	213,425	36	24
Granby	16,591	13,030	381,593	513,455	23	39
Hampden (3)..		8,643		245,550		27
Leverett	10,385	8,458	176,545	174,650	17	22
Monroe	6,556	2,409	32,780	16,005	5	8
Northfield	18,776	12,243	525,728	423,840	28	35
Orange	13,603	12,775	285,663	344,610	21	27
Shelburne	12,692	15,062	266,532	382,395	21	25
Southampton ..	17,128	13,185	274,048	432,400	16	33
Southwick	18,007	13,778	342,133	535,100	19	38
Wales	7,725	5,306	100,425	69,950	13	14
Williamsburg ..	15,092	11,890	211,288	268,200	14	22
Total	289,498	253,210	$4,825,756	$5,986,810	$17	$24

(1) Figures for 1875 are from *Census of Massachusetts,* 1875, Vol. III, p. 639. Values in 1875 were published in currency and have been reduced to gold at $1.12 currency to $1 gold, the ratio used by the Census of Massachusetts for similar calculations for that date.

(2) Figures for 1925 are from unpublished statistics of the U. S. Census of Ag., 1925, supplied by the American Geographical Society.

(3) Hampden was founded from part of Wilbraham in 1878.

Type in 1875 was ten dollars and in these towns seventeen. In 1925, the average value per acre in the hill towns had risen to thirteen dollars and in the unclassified towns to twenty-four. There is more evidence of an actual increase in value in these towns

than in the Ashfield Type as the percentage of gain here was 41. Even taking in account the decrease in the amount of land measured and the 29.5 percent increase in the index numbers of wholesale prices, this probably represents an actual average increase in value.

The highest land values, as might be expected, are in towns near the markets and having the largest areas of flat lands. Granby, Southwick, Northfield and Southampton are the four leaders in average value of farm land per acre in 1925 and all of them lie either entirely or largely within the Valley. All except Northfield are also close to the population center of the region and therefore have access to the largest market.

The four towns having the lowest land values of the group are Monroe, Chester, Colrain and Bernardston. All of them lie in the Uplands and all except Chester are at the opposite end of the region from the population center.

TABLE XIV

ABANDONED FARMS—UNCLASSIFIED TOWNS—1890

Towns	*No. of Farms*	*Acreage*	*Percent of All Farm Acreage 1885*	*Estimated Value Per Acre*
Belchertown	13	985	1.96	$10
Bernardston	6	450	3.29	7
Buckland	—	—	—	—
Charlemont	4	420	2.71	—
Chester	26	3,900	17.90	—
Colrain (1)	—	—	—	—
Conway	9	654	2.71	5
Enfield	6	674	7.23	5
Gill	—	—	—	—
Granby	2	121	.7	10
Hampden	—	—	—	—
Leverett	—	—	—	—
Monroe	—	—	—	—
Northfield	12	686	3.61	—
Orange	9	450	2.67	6
Shelburne	—	—	—	—
Southampton	—	—	—	—
Southwick	66	1,782	9.77	10
Wales	2	66	5.8	10
Williamsburg	—	—	—	—
	145	10,188		5–10

From "Abandoned Farms in Mass., 1890," *Report on the Statistics of Labor, Commonwealth of Mass.,* 1890, pp. 184–187.
(1) Colrain made no report.

Table XIV, which shows abandoned farms in these towns in 1890, should be compared with Table X which shows the abandoned farms for the Ashfield Type at the same date. There were fewer than half as many abandoned farms in these towns as there were in the hill regions and the area abandoned was only one-fourth of that in the Ashfield Type. The lowest estimated value per acre of these abandoned farms was higher in the unclassified than in the Ashfield Type.

It will be seen that several towns which Table XIII shows to have had increasing land values between 1875 and 1925 also contained abandoned farms in 1890. This is noticeably true of Enfield, Granby, Orange, Charlemont and Southwick. This probably represented merely an abandonment of lands which probably never should have been farmed. It did not, in any of these cases mean a real decline in the value of the town for agriculture. In all towns of this group there was a substantial decrease in the number of persons engaged in agriculture between 1875 and 1920.[76] Thus, land which has increased in value supports fewer people in agriculture. This is probably due largely to the decidedly increasing standard of living and increased productivity per capita.

[76] See Figure XXIV and Table VIII in the Appendix.

CHAPTER V

CHANGES IN OCCUPATIONS

Agriculture, mining and manufacturing are the fundamental occupations of man and on them most other occupations depend.[77] Because mining is almost entirely absent from this region, the changes in the distribution of the population between agriculture and manufacturing should give an accurate general picture of the changes in occupations which have taken place.

The region has passed through a marked shift in the chief occupations of its people. This may readily be seen from Table XV. In 1820, the first year for which any semblance of occupational statistics are available, agriculture was the chief interest of the people. At that time 17,102 persons or 20.2 percent of a total population of 83, 926 were engaged in this pursuit. Manufacturing gave employment to but 3,543 or 4.8 percent. In 1875, agriculture occupied but 97 more people than in 1820 and employed only 10.4 percent of the population. The number engaged in manufacturing had increased to 32,662 or 19.1 percent of the total of 172,821. The most recent figures, those for 1920, show but 12,052 in agriculture and the percent of the total population, which was at that time 419,265, had shrunk to 2.9. Manufacturing was then overwhelmingly the dominant interest, occupying 99,597 persons or 23.9 percent of the whole.

Another way in which this general change in the chief occupations of the people may be seen in the maps, Figures XVIII to XX. These show the chief occupation by towns in 1820, 1875 and 1920. The 1820 map indicates that in all except one town, Springfield,[78] agriculture was the chief occupation at that time.

[77] "The first three groups, agriculture, mining and manufactures, represent the basic occupations and upon the location of these industries depends the location of the other six groups. . . . Consequently, these three basic activities are . . . considered as typical of industrial development and distribution throughout the country." "Increase in Population in the U. S., 1910–1920," *Census Monograph I* (1922), pp. 155–156.

[78] Chicopee was then included in Springfield—set off as a separate town in 1848. *Census of Mass.*, 1905, Vol. 1, p. 879.

Examination of Table VIII in the Appendix on which this and the other maps on occupations are based, will indicate that this was not only the only area in which manufacturing was then the chief occupation, but was the only one in which it approached the importance of agriculture. The advantages of location which had made Springfield a manufacturing center even at this early day were discussed in Chapter II.

TABLE XV

CHANGES IN NUMBERS ENGAGED IN AGRICULTURE AND MANUFACTURING 1820 (1), 1875 (2) AND 1920 (3) HAMPDEN, HAMPSHIRE AND FRANKLIN COUNTIES

Agriculture

	1820	*1875*	*% Change*	*1920*	*% Change*
Hampden	5,685	5,583	— 1.8	3,434	— 38.7
Hampshire	5,800	5,838	+ .7	4,733	— 18.9
Franklin	5,617	5,779	+ 2.9	3,895	— 32.6
Total	17,102	17,199	+ .5	12,052	— 29.9
Population of Region	83,926	172,821	+ 105.9	419,265	+ 142.6

Manufacturing

	1820	*1875*	*% Change*	*1920*	*% Change*
Hampden	1,430	21,617	+1,411.6	75,795	+ 245.5
Hampshire	1,103	7,138	+ 547.1	14,953	+ 109.5
Franklin	1,010	3,907	+ 286.7	8,849	+ 126.5
Total	3,543	32,662	+ 821.8	99,597	+ 209.4
Population of Region	83,926	172,821	+ 105.9	419,265	+ 142.6

(1) Figures for 1820 are from *U. S. Census*, 1820, Table VI.
(2) Figures for 1875 are from *Census of Mass.*, 1875, Vol. I, pp. 461–464.
(3) Figures for 1920 are from unpublished statistics from the U. S. Census of that year supplied by U. S. Bureau of the Census.

By 1875 a considerable change had taken place. As Figure XIX shows, there were then two sizeable regions throughout which manufacturing was by all means the dominant source of livelihood. One of these occupied part of the "body" and the "rear legs" of the "bug" and the other represented the "front legs." The reasons for the importance of manufacturing in these valleys has been discussed at some length in Chapter II.

Figure XX, the map for 1920, shows that, by that time, manufacturing had taken advantage of even further ramifications of

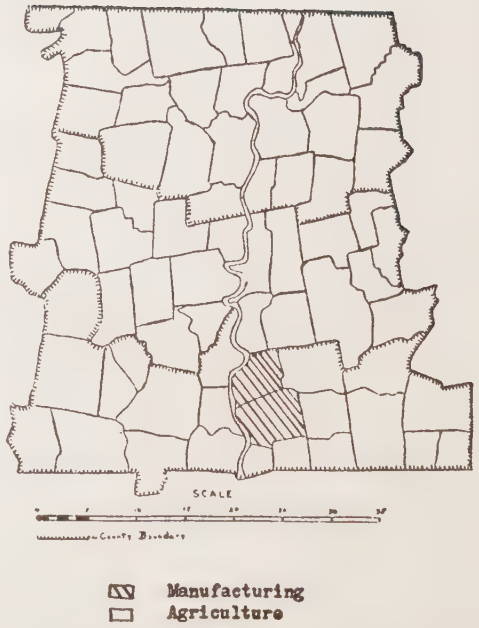

FIG. XVIII. Principal Occupations by Towns, 1820.

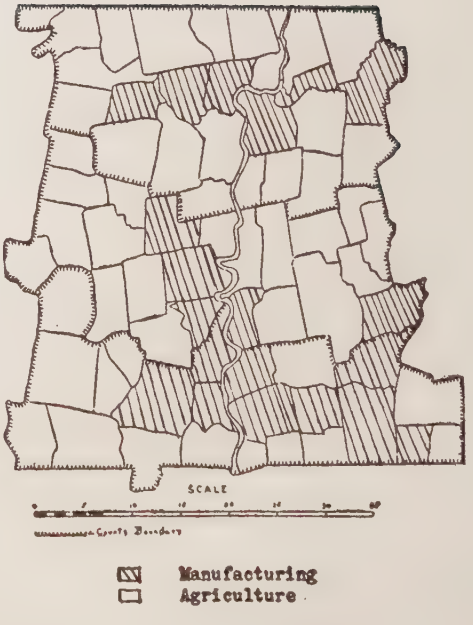

FIG. XIX. Principal Occupations by Towns, 1875.

the valleys. The significance of the addition of six towns to the list of those dominantly manufacturing in population must not be exaggerated, however. In some instances, notably Longmeadow, East Longmeadow and Agawam, the addition comes not from any pronounced growth of manufacturing within the borders of the town but in the overflow of manufacturing population from Springfield and West Springfield for residential purposes. Chester, Gill and Monroe owe their shift to this classification not only to a growth in manufactures but a combination of such growth with a decline in population engaged in agriculture. An examination of the figures for these towns in Table VIII in the Appendix will show that each of these three towns, although having larger manufacturing population in 1920 than in 1875, had a smaller number of such people in 1920 than of persons engaged in agriculture in 1875.

The extent of the change from agriculture to manufacture may also be arrived at by comparing this map showing dominant occupations in 1920 with Figure VI showing the distribution of towns among the various classifications with regard to changes in total population. It will be seen that almost all of these manufacturing towns lie within the growing Springfield and Northampton Types, while a few are included in the unclassified towns. None, it will be noted, is of the Ashfield Type which has shown a steady decline in population since the early part of the nineteenth century.

Variations in the Movement of Wage-Earners Toward Manufacturing

The picture of the general trend toward manufacturing as an occupation is a true one but there have been some exceptions. Figure XXI shows the towns having a decrease in persons engaged in manufacturing between 1820 and 1875. It will be noted that with but two exceptions, these towns are of the Ashfield Type and were thus steadily losing total population. They are also, with the same two exceptions, remote from the valleys and the railroads. The decrease in manufacturing in these towns may represent one of two things or both. In the first place, it probably represents in part the tendency for the elimination of the home industries after 1840

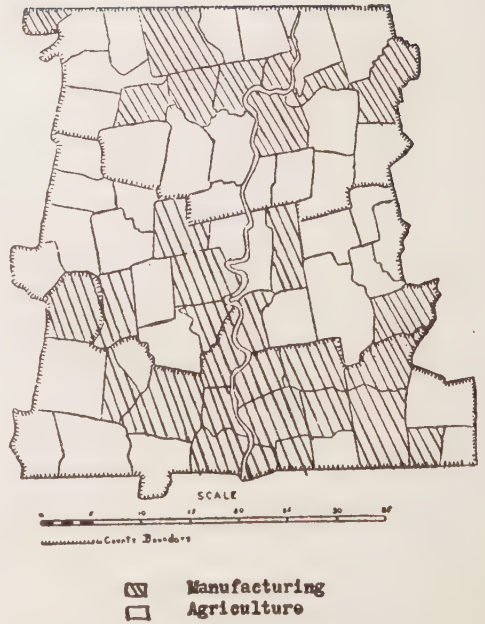

FIG. XX. Principal Occupations by Towns, 1920.

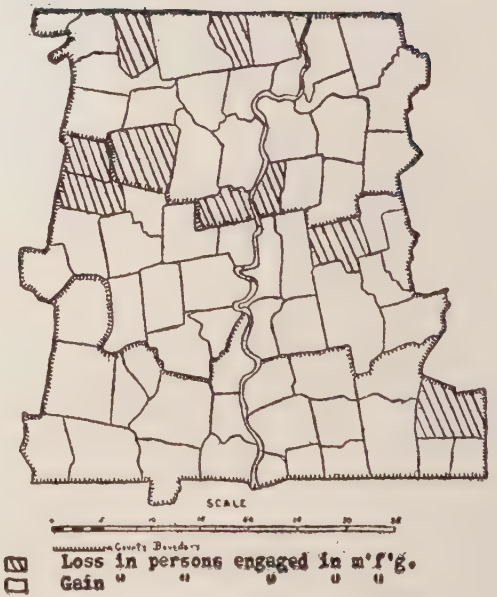

FIG. XXI. Towns Losing or Gaining Persons Engaged in Manufacturing, 1820–1875.

which was discussed in Chapter III.[79] It may also be due in part to the decline in agricultural population in these towns which removed the markets for such "service" manufacturing establishments as blacksmith shops and grist mills.

The two towns losing persons engaged in manufacturing in this period which are not of the Ashfield Type are Sunderland and Whately of the Hadley Type.[80] They are in the Valley Lowland on the railroads, but capital is more advantageously applied to agriculture because of superior soil and topography. They are purely agricultural towns and have real advantages for that industry.

The number of towns exhibiting losses in the number of persons engaged in manufacturing between 1875 and 1920 is even larger. The situation appears in Figure XXII. The distribution of these towns is significant. With three exceptions—Sunderland, Whately and Hatfield which are advantageously situated for agriculture—they are "outlying" towns. Even Shelburne, Buckland, Charlemont and Rowe, which are on a through-line of railroad, are remote from the centers of manufacture in the region. Three of these towns, Wales, Shelburne and Buckland appear as "manufacturing" towns in 1920 (Figure XX). Six of them, Wales, Hampden, Conway, Shelburne, Buckland, and Charlemont also appear among the "Unclassified" towns described in Chapter IV. In that chapter it was concluded that much of the decline in population evident in these towns in recent years was due to the large mortality among small manufacturing establishments. The general picture presented by Figures XXI and XXII is one of the decline of the remote small factory and the concentration of manufacturing in the more favorably located Valley towns.

Variations in the Movement of Wage-Earners Away from Agriculture

That there has been a general trend away from agriculture as an occupation in this region between 1820 and 1920, is evident but there have been some interesting variations in this trend.

It will be recalled that Table XV showed that, while there was a marked decrease in population engaged in agriculture between 1820 and 1920, there was a slight increase in such population in the

[79] P. 53 *et seq.*

[80] See Chapter II.

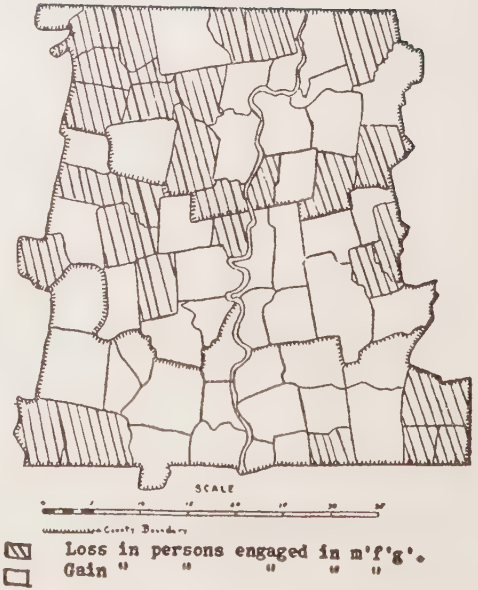

FIG. XXII. Towns Losing or Gaining Persons Engaged in Manufacturing, 1875–1920.

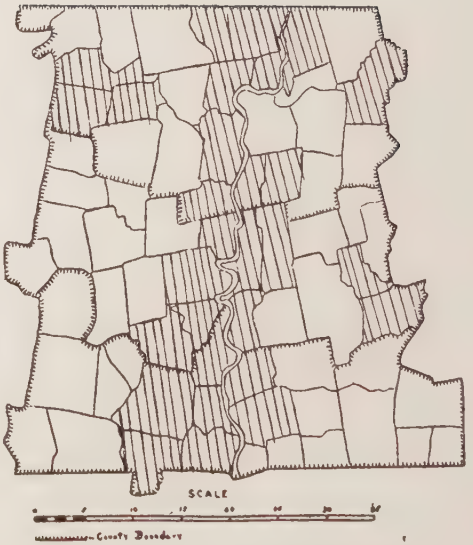

FIG. XXIII. Towns Losing or Gaining Persons Engaged in Agriculture, 1820–1875.

period 1820–1875. This amounted to but one-half of one percent but did show a tendency for agriculture to survive, even though manufacturing was fast becoming the dominant interest. Figure XXIII shows the towns having an increase in population engaged in agriculture between 1820 and 1875. There is a marked concentration of such towns in the Connecticut Valley and some outlying regions in tributary valleys.

Effect of Favorable Topography

It would naturally be expected that if agriculture were to prosper at all it would prosper best in regions in which soil and topographic conditions were most favorable. Obviously the areas indicated in Figure XXIII meet this requirement. The Connecticut Valley Lowland, in particular, has soil and topographic conditions which are in many parts, excellent. The outlying area shown here, because they lie in the tributary valleys, have as favorable conditions as may be found anywhere in the region away from the Connecticut Valley. To some extent, then, the reversal in these towns of the general trend toward agricultural decline may be explained by more favorable physical conditions.

Effect of Nearness to Market

There is another factor, however, which is undoubtedly more important. That is, the effect of local market arising from the increase in population in the manufacturing towns.[81] A comparison of Figure XXIII with Figure XX, showing the towns which had become predominantly manufacturing by 1875, will indicate this.

The local market for agricultural products was definitely the cause for agricultural prosperity in the towns of Charlemont and Buckland. Here the principal occupation of the population, while not strictly "manufacturing," was largely mechanical and was included under that heading. The Census of Massachusetts of 1875 [82] credits the general prosperity of these two towns to "work on the Troy and Greenfield Railway." The presence of large numbers of construction workers thus furnished a local market for agricultural produce.

[81] See quotation from Loring on p. 88.
[82] Vol. I, p. 760.

In other towns, population increases were, in nearly every instance, said to be due to increase of manufactures.[83] It may be reasonably assumed that this increase in population stimulated local agriculture in many instances. This assumption does not necessarily conflict with the statement in Chapter III, in connection with the declining hill towns, that they could not compete with western lands in their local markets. This statement was true for the more remote towns, especially in the non-perishable staples, but less true for those towns immediately adjacent to growing manufacturing districts. Distance and perishability of product also acted as a sort of protective tariff because the products in which these towns were interested were largely milk and vegetables.

A sage observer prophesied in 1838,

"If more fertile regions can supply our cities with grain at a cheaper rate than we can, let us not lament. We shall find full employment in furnishing what cannot so well be transported from a distance. Fresh meats, butter, hay and the small market vegetables must be supplied by the farmers of New England." [84]

A correspondent of the Massachusetts Board of Agriculture said with regard to Hampden County in 1873,

"Market gardening is carried on to a considerable extent, particularly in West Springfield and Chicopee, and with satisfactory results. Many farmers who give no attention to general gardening, raise from one to three acres of cabbages. This is readily disposed of to consumers in adjoining villages and cities, or purchased by middlemen and shipped to Boston, Worcester, New Haven and other cities." [85]

Some towns had achieved increases due to tobacco-growing for which their soil was particularly suited. This included not only the five Hadley type towns discussed in Chapter III, but also to a lesser extent Southwick, Westfield, Northfield, Easthampton, Southampton, Agawam and West Springfield, although the crop was never of great importance in these latter towns.

Figure XXIII, and the discussion immediately above, would seem to indicate that the word "decline" as applied to the agriculture of the region from 1820 to 1875 must be used with some

[83] *Census of Mass.*, 1875, Vol. I, pp. 761–764.
[84] Buckminster, W., *The New England Farmer,* XVII (1838–39), p. 113.
[85] *Massachusetts Agriculture,* 1865, p. 305.

qualifications. There was a slight increase in number engaged in agriculture for the region as a whole but, compared with the total population growth, there was a relative "decline." The gist of the picture is that agriculture showed a tendency to "hang on" but shifted to the vicinity of the markets in the rising manufacturing towns and to the better lands where specialties might be raised.

Towns Showing an Increase in Population Engaged in Agriculture 1875–1920

If there was a tendency for agriculture to "hang on" from 1820 to 1875 it "let go" sometime during the period 1875–1920. Figure XXIV shows that, of the twenty-eight towns showing increase in population engaged in agriculture from 1820–1875, only four continued to increase to 1920.[86] It will be noted that they are all of the list of tobacco and onion towns discussed in Chapter II. Their unique advantages for growing these specialty crops and the substantial lack of any advantages for manufacture contributed a "survival value" that was potent.

Conflict Between Industrial and Agricultural Uses for Land

It would seem that lack of manufacturing advantages in towns which have good soil and topography has been an important factor. It will be remembered that even cities like Springfield, Northampton, Holyoke and Westfield had increased in population engaged in agriculture in the previous period, but by 1920 had declined. This would seem to indicate that the land in these cities, although some of it was rich meadow land, especially suited to the growth of valuable crops like truck and tobacco, had by this time become so valuable for residential and industrial purposes that it passed to those uses. The increases in population and in persons engaged in manufacturing in towns like Longmeadow, East Longmeadow and Agawam, which are but suburbs of Springfield, are an evidence of the potency of this force.

[86] Holyoke, in Table VIII, Appendix, shows a slight gain for 1920 over 1875 but this was largely due to the addition of agricultural and forest lands lying between Mt. Tom and the Connecticut River north of the City. These had been ceded by Northampton in 1909. See *Mass. Census,* 1915, p. 171.

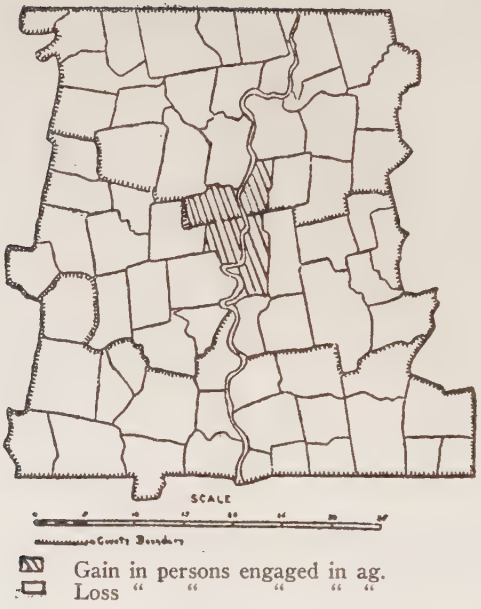

FIG. XXIV. Towns Losing or Gaining Persons Engaged in Agriculture, 1875–1920.

It would seem, then, that added to all the other handicaps to agriculture in this region is the fact that most of its best river-bottom lands must compete with residential and industrial uses, for which the location of these lands make them eminently suited. That they have been able to survive this competition only in the northern part of the Valley, remote from the larger industrial centers, seems to be additional proof of the existence and strength of this force.

The lack of growth in the isolated areas which had registered growth between 1820 and 1875, such as Chalemont, Buckland, Orange and Enfield was probably caused in part by the decline in manufactures in some of those towns in very recent years [87] and the consequent decline of the home market.

Growth of the Dairy Industry

The question naturally arises as to why the growth of population in the region as a whole did not give rise to an increased demand for fresh milk, an increase in the dairy business and a consequent increase in numbers engaged in agriculture, at least immediately adjacent to the large centers. There was such an increased demand and it did result in an expansion of the dairy business. This is seen in the fact that the milk produced in the three counties increased from 6,615,706 gallons in 1875 to 18,976,182 gallons in 1924. This increase was brought about, however, not by any tremendous increase in the number of cows, and therefore a demand for agricultural labor, but by a very large increase in the product per cow. There were 29,968 milch cows in the three counties in 1875 and 35,334 in 1924. The average product per cow had, therefore, increased from 221 gallons to 542 gallons.[88] It is altogether probable that the use of machinery in the dairy industry and in the raising of feeds had displaced at least enough labor to make up for the small increase in the number of cows. Thus the dairy business probably gave occupation to few, if any, more farmers in 1924 than it did in 1875.

[87] See Figure XXII.

[88] The figures with regard to number of cows and milk production for 1875 are from *Census of Mass.*, 1875, Vol. III, pp. 329 and 668. The figures for 1924 are from unpublished statistics of the U. S. Census of Ag., 1925, supplied by the American Geographical Society.

Increases in Market Gardening

It is rather difficult to determine to what extent market gardening had increased during this period. According to the *Census of Massachusetts,* 1875,[89] there were then 767 acres in market gardens in these three counties. The 1925 Census of Agriculture does not give the acreage in market gardens but does give the acreage of certain "vegetables grown for sale." By adding the figures for cabbages, sweet corn and tomatoes, the total of 1913 acres is obtained. This probably does not nearly represent the total acreage but does show a considerable increase over the figure for 1875. The added number of farmers needed to care for this increased acreage of market garden is lost, however, in the general decrease in demand for farmers which is represented by the decrease in improved land in farms from 610,797 acres in 1870 to 239,215 acres in 1920.[90]

TABLE XVI

Improved Land in Farms—1850–1920

Acres

	1850(1)	*1860(2)*	*1870(3)*	*1880(4)*
Hampden	198,153	190,706	177,228	184,946
Hampshire	211,219	222,448	207,636	205,802
Franklin	197,232	234,723	225,933	232,063
Total	606,564	647,877	610,797	622,811
	1890(5)	*1900(6)*	*1910(6)*	*1920(6)*
Hampden	169,308	121,854	100,431	73,825
Hampshire	161,312	134,180	103,271	90,083
Franklin	185,611	127,786	92,591	75,307
Total	516,231	383,820	296,293	239,215

Sources—U. S. Census for year mentioned as follows:
(1) Census, p. 58.
(2) Volume on "Agriculture," p. 74.
(3) Volume on "Statistics of Wealth and Industry," p. 174.
(4) Volume 3, p. 120.
(5) Volume on "Agriculture," p. 213.
(6) 1920 Census, Volume VI, Part I, pp. 160–161.

Changes in Land Acreage and Value

The variables in the situation with regard to land values are so many that it is rather difficult to present a simple picture of changes in that item for the region as a whole. It will be recalled

[89] Vol. III, p. 636 et seq.
[90] See Table XVI.

that land values were decreasing absolutely or relatively in most of the Ashfield Type towns and in many of the unclassified towns. In the Valley towns, however, they had been increasing as shown in Table X of the Appendix and Figures XV and XVI.

It is interesting to note that, while the acreage included in farms in these three counties had decreased from 983,551 in 1875 to 631,694 in 1925, the total value of all farm land in the region had increased from $21,847,681 to $26,269,197.[91] This is but a 20.2 percent increase, as far as the figures indicate but the decrease in number of acres combined with the actual and relative decreases in land values in the hill towns shows that the good land must have increased in value at a much greater rate. This is indicated in part by the fact that the average value of all farm land in the region had increased from $22 to $42 but this figure involves a possible error in that many of the poorer lands on the margin which were included in the 1875 calculations had been eliminated by 1925 and the figures are therefore not for the same areas. The increase in the total value, however, indicates that a fewer number of acres were worth more. The exact ratio of increase is impossible to determine.

An idea of the extent to which the average value of the good lands had increased may be gained from Table VI. Here it will be seen that the average value per acre of land in the Hadley type towns had increased from $56 to $111 or almost exactly 100 percent. The extreme increase is indicated by the figures for Sunderland in which the increase was from $37 to $156 or 332 percent.

The opposite extreme is probably presented by the condition in Leyden as shown in Table IX. In that town there was a decrease in the acreage of farm land from 10,558 in 1875 to 8,700 in 1925. At the same time there was also a decrease in the average value of farm lands from $15 to $9 per acre. The relative decrease was probably even greater as the areas abandoned were probably the poorest and therefore the 1925 values were based on the better lands. All of these figures must also be considered in the light of the 29.5 percent increase in the index number of wholesale prices for the same period.

[91] All of the total figures for land acres and values are based on Appendix—Table X.

CHAPTER VI

CHANGES IN THE ORIGIN OF THE POPULATION, 1875–1920

General Changes

The year 1880 marks the beginning of a change in the origin of the people of the United States. Prior to that date they had been almost entirely of northwestern European stock, either through descent from early settlers, or directly by recent immigration. After that date the sources of immigration shifted to the central, southern and eastern parts of Europe and gave rise to what has been called the "New Immigration." [92] This change was espe-

	1870 *Percent*	*1920* *Percent*
Northwestern Europe	56.1	27.5
Central and Eastern Europe	32.1	44.1
Southern Europe	.5	13.7
Canada and Newfoundland	8.9	8.2
All other	2.4	6.5
	100.0	100.0

Based on figures from *Statistical Abstract of the U. S.*, 1928, p. 32.

cially noticeable in western Massachusetts. It is fortunate that statistics for nationalities by towns in the region under discussion are available in the Massachusetts Census as early as 1875 so that this change may be traced in detail.

The Causes of the Increase in Proportion of Foreign-Born

The changes in the total population of the region and in the sources of its foreign-born are shown in summary form in Table XVII. The proportion of foreign-born white for the region as a whole had increased from 22.4 percent in 1875 to 25.2 percent in 1920, a gain of 2.8 percent. During practically the same period, the proportion of foreign-born white to the total population of the

[92] The origins of the foreign-born in the U. S. in 1870 and 1920 were as follows:

TABLE XVII

DISTRIBUTION OF POPULATION AS TO NATIONALITY 1875 AND 1920

	1875		1920	
	Number	*% of Total Pop.*	*Number*	*% of Total Pop.*
Total Population	172,821	100.	419,265	100.
Total Foreign Born White	38,810	22.4	106,237	25.2
Born in Ireland	20,999	12.2	15,698	3.7
Born in Canada	9,808	5.7	24,380	5.8
Born in England	3,524	2.0	6,021	1.4
Born in Germany	2,742	1.6	3,886	—
Born in Scotland	1,088	.6	4,273	1.0
Born in Sweden	105	—	2,265	—
Born in Austria	89	—	2,591	—
Born in Italy	50	—	8,306	2.0
Russia, Poland, Finland	—	—	—	—
and Lithuania	35	—	11,675	2.8
Born in Portugal	6	—	1,326	—
Born in Greece	2	—	1,752	—
Born in All Other	362	—	35,807	8.5

Note: This table and all others relating to foreign-born as well as all figures in the text on this subject are based on Table IX in the Appendix.

United States was decreasing from 14.4[93] percent to 13.2. The increase in proportion of foreign-born to total population in this region during a period when the United States as a whole was experiencing a decrease in the same proportion merits some analysis. It is evident that this region was proportionally more attractive to the immigrant than the United States as a whole. The attractions offered by any region to an immigrant are largely the opportunities which it offers in the pursuits of manufacturing and agriculture as these are the two leading occupations of the gainfully-employed foreigners.[94] For that reason Table XVIII was compiled to show the changes in proportion of foreign-born to total population in the towns which were found to have been manufacturing or agricultural in 1920.

An analysis of Table XVIII shows the rather striking fact that, while the proportion of foreign-born increased but .1 percent in the manufacturing towns, the increase in the agricultural towns was 10 percent. It will be seen that the number involved in the

[93] The comparison for the U. S. is between the census periods of 1870 and 1920. Figures are from *U. S. Statistical Abstract,* 1928, p. 4.

[94] Gainfully employed foreign born were 46.9 percent engaged in manufacturing and 12 percent in agriculture in 1920, *Fourteenth Census of the U. S.,* Vol. IV, p. 340.

changes in the agricultural towns was not large but there was 100 percent increase in the number of foreign-born while the total population of these towns was declining, thus largely increasing the proportion between these two figures.

TABLE XVIII

CHANGES IN PROPORTION OF FOREIGN WHITE-MANUFACTURING AND AGRICULTURAL TOWNS

	Total Population		*Foreign Born*		*Percent*	
	1875	*1920*	*1875*	*1920*	*1875*	*1920*
Manufacturing Towns .	129,393	372,014	35,244	100,849	27.1	27.2
Agricultural Towns ...	39,909	32,759	2,482	5,326	6.2	16.2

The small increase in the manufacturing towns of this region while the United States was experiencing a decrease is probably due in large part to the much more rapid rate at which manufactures grew in Massachusetts during the period than in the United States as a whole. The value of the manufactured products of the State increased from $489,530,547 [95] in 1875 to $14,753,542,000 in 1925 or at the rate of 2911 percent. Between 1869 and 1925, the value of manufactured goods produced in the nation as a whole rose from $3,385,860 to $62,713,713,730 [96] or at the rate of but 1967 percent. The field of manufactures has undoubtedly offered considerable attraction to the foreigner, largely because of its large demand for unskilled or semi-skilled labor. In Massachusetts in 1920, 65.2 percent of all gainfully-employed foreign white males were engaged in the manufacturing and mechanical industries.

A small but significant number of foreigners have undoubtedly been attracted to agriculture in the region, partly because of the demand for cheap manual labor in the onion and tobacco industries and partly because of the cheapness of land and the ease of acquiring a farm. This aspect of the increase is discussed on pages 88 et seq.

CHANGES IN THE NATIONALITY OF THE POPULATION

It will be seen from Table XVII that the population of this region in 1875 was largely of the older stock. At that time 77.6 percent was native and the principal immigrant stocks were Irish,

[95] *Census of Mass.*, 1875, Vol. II, p. XIX.

[96] All figures for 1925 are from *Biennial Census of Manufactures*, 1925, pp. 15 and 37.

Canadian, English, German and Scotch. These, with the possible exception of the Canadian-French, were the stocks which had contributed largely to the population of the United States from the earliest times.

The Slavic races, such as the Russians and Poles, were hardly represented and the Latins made little contribution, except for those of French extraction contained in the number represented as "Canadian." As to language, the natives, Irish, English and Scotch, had the same mother tongue. These nationalities represented 92.4 percent of the total population and probably some addition must be made to this percentage for the English-speaking Canadians.

The column for 1920 shows a situation somewhat different. Not only had the percent of foreign-born increased, but there had been a shift in the sources of the foreign-born population. By this time the native, Irish, English and Scotch represent but 80.9 percent of the total. The Canadians had become the leading single foreign nationality, displacing the Irish who had fallen to but 3.7 percent of the total population. The Russians, Poles, Lithuanians, Finns and Italians made up 4.8 percent of the total, the Austrians, Greeks and Portuguese had increased and a whole galaxy of races included in the class, "All Others," had risen to a total contribution of 8.5 percent. In 1875 they contributed but a small fraction of 1 percent.

The Geographical Distribution of the Changes

The distribution of increases and decreases in the proportion of foreign-born to total population by towns is shown in Figure XXV. This map should be read with certain cautions in mind. It is, as the title indicates, a map showing the changes in *percentage* of foreign-born to total population in each town in 1920 over 1875. It does not indicate in all cases an increase in absolute numbers of foreign-born in towns showing increases for the period. It does indicate the *relation* between the changes in foreign-born and the changes in total population. An examination of Table XX will show that several towns of the Ashfield Type, for example, had decreases in total amount of foreign-born but these decreases were relatively smaller than the decreases in population. On the other

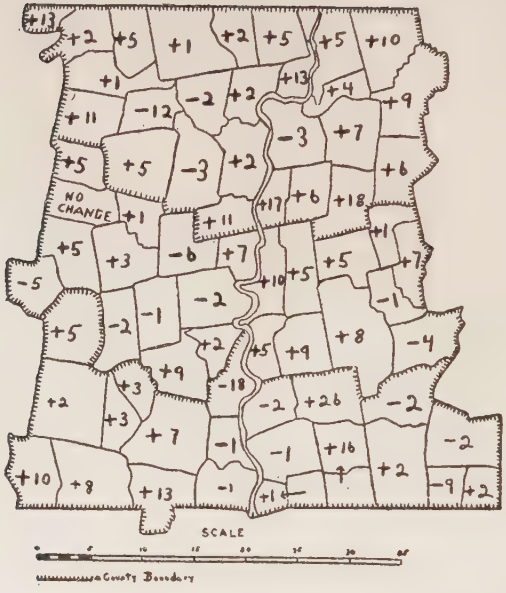

Fig. XXV. Changes in Percent of Foreign Born to Total Population by Towns, 1875–1920.

hand, other towns such as Holyoke and Springfield had an increased foreign population and increased total population but the increase in total was relatively greater than the increase in foreign.[97]

At first glance the map would seem to show little in the way of definite trend by classes of towns. A comparison with Figure VI indicates that towns of the Springfield, Northampton and Ashfield Types and the unclassified towns have had both increases and decreases in percent of foreign-born to total population for the period. Certain general relationships may be seen, however, and they may be listed as follows:

1. A considerable increase in proportion of foreign-born in all towns of the Hadley Type.
2. A general increase in proportion of foreign-born in all but four towns of the Ashfield Type and in all but six of the unclassified towns.
3. A varied trend in the manufacturing towns, some showing increases and some decreases.

The Increased Proportion of Foreign-Born in the Hadley Type

The increase in proportion of foreign-born to total population in these towns for the period under discussion is shown in Table XIX. It had ranged from 2 percent in the case of Deerfield to 17 percent in the case of Sunderland. Sunderland, in fact, is surpassed in increase in proportion of foreign-born only by Ludlow with 26 percent and Shutesbury with 18 percent.[98] In all these towns, except Deerfield, there was not only a relative increase but also an absolute one. For the group as a whole, the increase was marked. The total number of foreign-born whites increased from 1,632 to 2,851 and the proportion of foreign-born white to total population from 18 to 27 percent.

These towns owe their growth almost exclusively to agriculture as has been noted.[99] It would seem, then, that the agricultural opportunities in these towns were the magnets drawing foreigners to them. It certainly could not have been due to opportunities in

[97] See Table XXII.
[98] See Figure XXV.
[99] Chapter II and Figures XVIII to XXIV.

TABLE XIX

CHANGES IN THE PROPORTION OF FOREIGN WHITE TO TOTAL POPULATION HADLEY TYPE TOWNS—1875 AND 1920

	1875		*1920*	
	Foreign White	*Per Cent*	*Foreign White*	*Per Cent*
Deerfield	613	18	568	20
Hadley	412	19	816	29
Hatfield	386	24	814	31
Sunderland	82	10	350	27
Whately	139	14	303	25
Total	1,632	18	2,851	27

manufacture as there were only 15 persons engaged in manufacturing occupations in Sunderland in 1920, 147 in Hadley, 59 in Hatfield and 42 in Whately. In fact, Deerfield, with the largest number engaged in manufacturing (276 in 1920), was the only one of these towns reporting an actual decrease in numbers of foreign-born. This situation certainly constitutes an exception, even though a small one, to the generalization, so often repeated in recent years, that immigrants are almost exclusively attracted to manufacturing towns.[100]

Nor is the exception due to any general difference between the type of immigrants here and in the United States as a whole. In fact the races represented in the increases in these towns are almost exclusively from the more recently arrived central and southern Europeans.[101] The great increases have occurred in the ranks of the Russians, Poles, Lithuanians and Austrians. The large decreases are among the Irish and Germans. That this is typical of the trends for the region may be seen from Table XVII.

EFFECT OF TYPE OF AGRICULTURE IN ATTRACTING FOREIGNERS

The type of agriculture in these towns (the intensive growth of tobacco and onions) would probably be impossible without some such labor supply as that furnished by these hardy immigrants

[100] ". . . foreign immigration is mainly a movement from the farms of Europe to the cities of America. The high wages of the industries and occupations which radiate from American Cities are to them the magnet which fortune-hunting is to the American-born." Commons, J. R., *Races and Immigrants in America*, p. 166.

[101] See Figures XXVI to XXIX, and Appendix, Table 9.

from central Europe. Mr. T. Abel in his study of the Poles of Sunderland says:

"The resources of its fertile soil were largely untapped because the native population lacked the stamina or determination to do the constant stoop-and-squat labor required by tobacco and onions, which had been shown by experience to be the crops best adapted to the soil."[102]

In a study of the onion industry made by a portion of the staff of the Massachusetts Agricultural College in 1919, the relation between the growth of the onion and tobacco industries and the coming of the "New Immigrants" was pointed out in the following words:

"The influx of Poles, Lithuanians and Slovaks, which had fairly set in by 1890, has had a direct effect on the growth of the onion and tobacco industries in the Connecticut Valley. Since that date the proportion of these races has been steadily increasing and the onion industry, which calls for a large amount of hand labor which the foreigners are able and willing to give, has grown steadily. In 1895, 16 percent of the foreign population in Deerfield, Sunderland, Montague, Whately, Amherst, Hadley and Hatfield were born in Poland, Austria and Russia. In 1905 the proportion had grown to 44 percent. A seed firm doing business in the valley reports that its list of customers in 1895 contained the names of only two foreigners; in 1915 the total number of customers in the same territory was 198, of whom 145 were foreign born."[103]

The fundamental fact is that the suitability of the soil to these special crops attracted the immigrants and in some cases led to definite campaigns to get this type of labor.[104]

[102] Abel, T., "Sunderland, A Study of Changes in the Group Life of Poles in a New England Farming Community." This is one of a series of studies in a volume entitled *Immigrant Farmers and Their Children*, edited by E. de S. Brunner.

[103] Cance, A. E., Machmer, W. L. and Read, F. W., *Connecticut Valley Onion Supply and Distribution*, Mass. Ag. College, Bulletin No. 169 (1919), p. 62.

[104] Speaking of conditions about 1890, Abel says:

"The American farmer was quick to realize the value of the cheap and reliable labor of these newcomers. Soon two enterprising citizens of Sunderland systematically recruited foreign labor from New York for the farms. They 'delivered' immigrants to the farmers for ten dollars 'a piece.' Many of these people came directly from Europe. Thirty-four of the fifty-eight families found by the U. S. Immigration Commission in 1908 had had no previous residence in the United States." *Op. cit.*, p. 214.

The Increased Proportion of Foreign-Born in the Ashfield Type

Perhaps the most interesting trend in changes in proportion of foreign-born is observable in the towns of the Ashfield Type. Figure XXV indicates that all but four of these towns had an increase in the proportion of foreigners to total population between 1875 and 1920. It will be recalled that the Ashfield Type are towns with declining populations and that they are almost exclusively engaged in agriculture.[105]

TABLE XX

Changes in the Proportion of Foreign White to Total Population Ashfield Type Towns—1875 and 1920

	1875		*1920*	
	Foreign White	*Per Cent*	*Foreign White*	*Per Cent*
Ashfield	28	2	64	7
Blandford	34	4	30	6
Brimfield	105	9	58	7
Chesterfield	34	5	37	8
Cummington	44	5	25	5
Goshen	9	3	8	4
Granville	109	9	109	17
Greenwich	11	2	37	9
Hawley	8	1	45	12
Heath	15	3	25	8
Holland	14	4	12	8
Leyden	33	6	26	8
Middlefield	113	19	39	14
Montgomery	8	3	14	6
New Salem	11	1	35	7
Pelham	22	3	39	8
Plainfield	4	1	20	6
Prescott	8	2	7	3
Rowe	71	11	44	13
Shutesbury	17	3	52	21
Tolland	48	11	41	21
Warwick	13	2	38	12
Wendell	26	5	42	12
Westhampton	49	9	24	8
Worthington	16	2	20	5
Total	740	4	891	9

The changes in the population of these towns which have occurred in this period are indicated in Table XX. It will be seen that, although every one of the twenty-five towns of this group

[105] See Figures XVIII to XXIV.

had a substantial decrease in total population, all but eight of them had increases in foreign population. Shutesbury in this group, had, in fact, the second largest growth in proportion of foreign-born in the region. It amounted to 18 percent. In those which had decreases in foreign-born, the decrease was slower than that in total population in seven and in one the foreign-born population was the same although total population had increased. The group as a whole shows an increase in absolute numbers of foreign-born from 740 in 1875 to 891 in 1920. The proportion of foreign to total population increased from 4 percent to 9 percent.

The changes in no cases involved large numbers, but the mere fact that, throughout the majority of these declining hill towns, there was a tendency for foreigners to increase in numbers, or at least to hang on longer than the native born, seems significant.

These facts indicate that native population is declining even faster than the figures and curves for population in these towns would seem to show and that there is a definite, though small, replacement of native with foreign-born. It is to be doubted whether the natives are leaving because of the influx of foreigners as the decline in these towns had been going on since early in the past century.

There seems to be a general impression that these hill towns, although declining in population, are still purely "Yankee."[106] The figures for proportion of foreign-born to total population in 1920 would seem to indicate that this description is not entirely true. Foreign-born white population constituted 12.9 percent of the total population of the United States in 1920.[107] As Table XIX shows, three of these towns, Hawley, Warwick and Wendell each have 12 percent of foreign-born, Rowe has 13 percent, and Granville 17. Shutesbury and Tolland each have 21 percent which is close to the average for the region. All these proportions are equal to, or greater than, that for the United States as a whole. The others range from 3 percent to 9 percent.

[106] ". . . perhaps the most typically 'American' population in the country . . . ," Carpenter, N., "Immigrants and Their Children, 1920," Census Mon. No. 7, p. 55.

[107] U. S. Statistical Abstract, 1928, p. 4.

The Changes in the Unclassified Towns

The unclassified towns might, from their nature, be expected to show a variety of trends with regard to changes in the origins of the population as they have in changes in total population. Table XXI shows this to be the case. Of the nineteen towns considered, thirteen show increases in proportion of foreign-white to total population and six show losses.

The distribution of gains and losses by towns according to the principal occupations of the towns is significant. Eleven of these towns were agricultural in 1920 and eight were mainly engaged in manufacturing or mechanical pursuits. Of the eleven agricultural towns, nine showed gains in proportion of foreign-white to total population and two showed losses. Of the eight manufacturing towns, four showed gains and four showed losses. Again it is evident that the foreign white are making themselves felt to an increasing degree in the towns which are largely agricultural. If

TABLE XXI

Changes in the Proportion of Foreign White to Total Population
Unclassified Towns—1875 and 1920

	1875		*1920*		*Principal*
	Foreign White	*Per Cent*	*Foreign White*	*Per Cent*	*Occupation, 1920*
Belchertown	196	8	339	16	Agric.
Bernardston	23	2	56	7	"
Buckland	517	27	211	15	M'f'g.
Charlemont	63	6	54	7	Agric.
Chester	151	11	206	16	M'f'g.
Colrain	172	10	176	11	Agric.
Conway	192	13	95	10	"
Enfield	184	17	123	16	"
Gill	26	4	151	17	M'f'g.
Granby	77	9	137	18	Agric.
Hayden (1)	—	—	—	—	
Loverett	7	1	51	7	Agric.
Monroe	9	5	31	18	M'f'g.
Northfield	116	7	212	12	Agric.
Orange	119	5	771	14	M'f'g.
Shelburne	142	9	94	7	"
Southampton	104	10	158	19	Agric.
Southwick	76	7	243	20	"
Wales	283	27	76	18	M'f'g.
Williamsburg	401	20	266	14	"
Total	2,758	11	3,390	13	

(1) Hampden was included with Wilbraham in the Northampton group for comparative purposes. See Table XI.

the two agricultural towns of this group showing losses be added to the four of the Ashfield Type also showing losses, it will be seen that only six of the forty-one agricultural towns of the region have shown a loss in proportion of foreign-white to total population.

The Effect of Cheap Land

The question may well be raised as to what attractions there are in these towns for the foreigner that he should roam so far from colonies of his own nationality in the cities and from what has usually been assumed to be the "beaten track" for immigrants. That these are agricultural towns has already been indicated. The answer, then, must lie in agriculture, for that is the principal occupation available. This conclusion is born out by the fact that, in 1920, 26.2 percent of the farmers of the three counties were foreign-born.[108] This is slightly greater than the proportion of foreign-born population to total population at that date. The Upland portion of the region has usually been considered by natives as a hard land in which to make a living at farming, as is evidenced by the large emigration to the West and to the Valley cities. The increase in proportion of foreign-born in most of these towns indicates that the foreigner evidently doesn't consider it so difficult.

These counties do have one thing that will attract a certain proportion of foreigners and that is—cheap land. In many instances it is not especially good land, and it is often far from transportation, but it *is* cheap.

The effect of this factor in attracting some of the recent immigrants to the farms has been noted by the United States Bureau of the Census. In a monograph entitled *Immigrants and Their Children,* 1920,[109] the following quotation occurs:

"This region (New England) is one of the few left in the United States where farm land has been sufficiently cheap and accessible to be available to the recent immigrant and it appears that he is beginning to avail himself of the opportunity. So far as this is the case it suggests that the predominance of the 'old' northern and western European stock in the country (for the U. S. as a whole) and of the 'new' southern and eastern stock

[108] Fourteenth Census, *State Compendium—Massachusetts,* pp. 82 and 83.
[109] Carpenter, N., *Census Monograph 7,* p. 56.

in the cities (also for U. S. as a whole) is due not so much to any inherent difference in preference or capacity between the two groups as to the fact that the 'old' immigrants reached this country at a time when it offered the new-comer almost unexampled opportunities for acquiring farm lands, and to the further fact that no prospects in any way comparable to these lie open to the present generation of southern and eastern Europeans."

Enough has already been said about land values in the chapters preceding to indicate the very low cost of land per acre in this region. The average value of farm lands per acre in the Ashfield Type, as indicated in Table IX, was but $10 in 1875 and $13 in 1925. The highest average land values in purely agricultural towns were in the Hadley type where the figures were $56 for 1875 and $111 for 1925 (Table VI).

The average farm in this region does not represent a very large investment and may, therefore, be bought by the immigrant who does not, as a rule, possess a great deal of capital. The average value of land and buildings per farm range from $3,489 in Franklin County to $7,539 in Hampden County according to the Census of Agriculture in 1925.[110] These values are slightly below the average figure for the United States which was $7,764 for the same year, and decidedly below the average value for farms in the East North Central States where the figure was $10,483 or the West North Central States where it was $14,875. Only the Middle Atlantic States and those of the South had lower average values than these.[111]

The average foreign-born farm-owner of this region probably owns a farm of at least average value. Statistics by counties are not available but the average value of farms owned by foreign-born in Massachusetts in 1920 was $7,234.[112] This figure is above the average value of farms in Franklin and Hampshire Counties in 1925 as noted above and only slightly below that for Hampden County.

In the towns with the higher priced land, such as those of the Hadley type, many of the foreigners have bought poor land that was cheap and, in addition, rented or worked upon the better land

[110] *U. S. Census of Ag.*, 1925, Part I, p. 145.
[111] *U. S. Census of Ag.*, 1925, "Summary Statistics by States," p. 16.
[112] Fourteenth Census, "*State Compendium—Massachusetts,*" p. 73.

of their native neighbors. Abel describes the system in Sunderland as follows:

"The immigrant first turned his attention to this unimproved land. With his savings he bought a few acres; and, undaunted by the ironic comments of the natives, who declared the land 'fit only to hold the world together,' he put all his efforts into making it produce. He did this work during 'leisure hours'; that is, in the evenings and at night when the day's labor on the farm of the employer was completed. In a short time this extraordinary effort was regarded by excellent crops of tobacco and onions, and the immigrant became economically independent." [113]

It is evident that land which the native regards as "beyond the margin of cultivation" because of the tremendous amount of labor necessary to make it produce, is quite acceptable to the immigrant because it is cheap and because he is willing to accept the standard of living necessary to make farming there profitable. There is evidently an actual "displacement" of natives by foreigners in the farming of this region as indicated by the fact that native-born farmers decreased from 6,918 in 1910 to 5,770 in 1920 while foreign-born farmers increased from 1,876 to 2,053. This represented an increase in proportion of from 21.3 percent to 26.2 percent. The total number of farmers, in the same period had decreased from 8,809 to 7,831.[114]

Changes in the Proportion of Foreign-Born in Towns Largely Engaged in Manufacturing

In the small, agricultural towns, the relation between the immigrant and the physical factors giving rise to the occupation which has attracted him is rather simple and direct. Agriculture is the only occupation available and there are positive statistics to show the relation of the immigrant to farming.

In the larger towns and cities the economic and social structure is more complex. Causes which work indirectly may be so well hidden that they are almost impossible to perceive. Any population movement is apt to be complex and the distribution of immigrants is especially so.

[113] Ibid., *op. cit.*, p. 215.

[114] Figures for 1910 are from *Thirteenth Census of the U. S.*, Vol. VI, pp. 758 and 759, for 1920 from *Fourteenth Census of the U. S.*, "*State Compendium—Massachusetts*," pp. 82 and 83.

Tables XXII and XXIII indicate that the changes in the proportion of foreign white to total population in the Springfield and Northampton Type towns were by no means uniform. Table XXII shows that, while the Springfield Type as a group increased in proportion of foreign-born by 1 percent, this increase was due to a very large rise in the proportion in Ludlow and much smaller ones in Westfield and Longmeadow. The other cities and towns all registered decreases. The number of foreign-born increased in every case, but in most, the growth of total population was faster than the growth in foreign-born. Springfield, West Springfield, Agawam and Chicopee, a group of contiguous towns, showed decreased proportions.

TABLE XXII

CHANGES IN THE PROPORTION OF FOREIGN WHITE TO TOTAL POPULATION SPRINGFIELD TYPE TOWNS—1875 AND 1920

	1875		*1920*	
	Foreign White	*Per Cent*	*Foreign White*	*Per Cent*
Agawam	584	26	1,151	25
Chicopee	3,624	35	12,182	33
East Longmeadow (1)	—	—	—	—
Greenfield	543	15	2,555	17
Longmeadow (2)	248	17	903	18
Ludlow	208	17	3,249	43
Springfield	7,713	25	31,250	24
Westfield	1,481	18	4,543	25
West Springfield	839	22	2,880	21
Total	15,240	26	58,713	27

(1) Included with Longmeadow for purposes of comparison in 1920. Was not set off from Longmeadow until 1894.
(2) Included East Longmeadow at both dates.

Table XXIII shows that the Northampton Type had the same lack of uniformity of trend. The group, as a whole, declined in proportion of foreigners, but again this was due largely to a marked change in the largest town, Holyoke. This town decreased by 18 percent and Huntington, Montague, Northampton, Palmer and Ware showed smaller losses. The other towns showed increases, that of Wilbraham being 16 percent, or nearly as great as the decrease in Holyoke.

This diversity of trends in the fastest-growing group of towns

TABLE XXIII

CHANGES IN THE PROPORTION OF FOREIGN WHITE TO TOTAL POPULATION NORTHAMPTON TYPE TOWNS—1875 AND 1920

	1875		1920	
	Foreign White	*Per Cent*	*Foreign White*	*Per Cent*
Amherst	316	8	696	13
Easthampton	1,165	29	3,459	31
Erving	95	12	210	16
Holyoke	8,450	52	20,255	34
Huntington	146	13	154	11
Monson	555	15	829	17
Montague	910	27	1,872	24
Northampton	2,817	25	4,945	23
Palmer	1,380	30	2,722	28
Russell	119	18	256	21
South Hadley	684	20	1,393	25
Ware	1,392	34	2,566	30
Wilbraham (1)	337	13	975	29
Total	18,366	30	40,332	28

(1) Includes figures for Hampden which was set off from Wilbraham in 1878.

and those most largely engaged in manufacturing requires somewhat detailed analysis.

THE EFFECT OF VARIATIONS IN PROPORTION OF POPULATION ENGAGED IN MANUFACTURING

It has already been indicated (p. 140), that 65.2 percent of the gainfully-employed foreign-born males of Massachusetts are engaged in manufacturing. It would seem logical, therefore to look for a possible cause for these variations in changes in the proportion of those engaged in manufacturing to the total population in these towns. Table XXIV shows the changes in total population, in gainfully-employed engaged in manufacturing, and in proportion of those so engaged to the total population of the town, as well as the increase or decrease in the percentage of foreign-born.

It will be seen from the table that fourteen towns experienced losses in percent, of foreign-born, but only four of these also showed losses in percent engaged in manufacturing. These towns were Holyoke, Buckland, Wales and Shelburne. It will be noted that all of these towns except Holyoke also lost absolute numbers of persons engaged in manufacturing so they were declining towns.

There is, obviously, no simple and direct correlation between these two phenomena which can be stated absolutely. It is probable also, however, that the correlation is not so negative as it

TABLE XXIV

CHANGES IN TOTAL POPULATION, GAINFULLY-EMPLOYED IN MANUFACTURING AND MECHANICAL INDUSTRIES AND PROPORTION OF FOREIGN-BORN MANUFACTURING TOWNS—1875 AND 1920

	Population		*Engaged in Manufacture*		*Per-cent Manu-facture*	*Per-cent Manu-facture*	*Change in Percent Foreign-Born*
	1875	*1920*	*1875*	*1920*	*1875*	*1920*	
Agawam	2,248	5,023	309	1,020	13.7	20.2	— 1
Amherst	3,937	5,550	338	701	8.6	12.6	+ 5
Buckland	1,921	1,433	385	284	20.0	19.8	—12
Chester	1,396	1,302	125	177	9.0	13.6	+ 5
Chicopee	10,335	36,214	3,332	11,797	32.2	32.5	— 2
Colrain	1,699	1,607	174	331	10.2	20.3	+ 1
Easthampton ...	3,972	11,261	1,088	3,946	27.6	35.1	+ 2
Erving	794	1,295	173	376	21.8	34.4	+ 4
Gill	673	879	55	135	8.2	20.1	+13
Greenfield	3,540	15,462	457	3,113	12.9	20.1	+ 2
Holyoke	16,260	60,203	6,291	18,833	38.7	31.3	—18
Huntington	1,095	1,425	135	332	12.3	23.3	— 2
Longmeadow (1)	1,467	4,970	131	751	8.9	15.1	+ 1
Ludlow	1,222	7,470	113	2,711	9.3	36.2	+26
Monroe	190	173	3	42	15.8	24.2	+13
Monson	3,733	4,826	721	975	19.3	20.2	+ 2
Montague	3,380	7,675	629	2,045	18.6	37.4	— 3
Northampton ..	11,108	21,951	2,271	4,750	20.4	21.6	— 2
Orange	2,497	5,393	511	1,350	20.5	25.0	+ 9
Palmer	4,572	9,896	1,200	2,798	26.2	28.3	— 2
Russell	643	1,237	74	353	11.5	28.8	+ 3
Shelburne	1,590	1,436	241	208	15.2	14.5	— 2
South Hadley ...	3,370	5,527	700	1,300	20.8	23.6	+ 5
Springfield	31,053	129,614	5,941	28,180	19.1	21.8	— 1
Wales	1,020	419	329	111	32.2	26.4	— 9
Ware	4,142	8,525	1,240	2,611	29.9	30.6	— 4
Westfield	8,431	18,604	1,692	4,298	20.0	23.1	+ 7
West Springfield	3,739	13,443	600	2,639	16.0	19.6	— 1
Wilbraham (2).	2,576	3,404	408	821	15.9	24.1	+16
Williamsburg ..	2,029	1,866	382	389	18.8	20.8	— 6

(1) Includes East Longmeadow.
(2) Includes Hampden.

might seem. It will be noted that Chicopee, Northampton, Palmer, Springfield and Ware have *small* decreases in proportion of foreign-born and also *small* increases in proportion of manufacturing population. Williamsburg had a slight increase in proportion

employed in manufacturing and a rather large decrease in the proportion of foreign-born. It will be seen, however, that manufacturing in this town was almost at a stand-still. It employed only seven more people in 1920 than in 1875 and total population had declined. *Lack of growth* in manufactures may well have failed to attract foreigners and natural biological decrease in numbers have accounted for the loss.

Another interesting correspondence may be observed which gives further evidence of a relation between these two phenomena. It will be seen that the greatest loss in proportion of foreign-born over the period (18 percent) took place in Holyoke. It will also be noticed that this loss was coincident with the substantial loss of 7.6 percent in proportion of persons engaged in manufacturing. On the other hand, Ludlow showed a gain of 26 percent in proportion of foreign-born and a gain of 24.9 percent in proportion engaged in manufacturing. Gill and Monroe also show rather large gains in both of these proportions but the numbers involved are so small that too much weight should not be attached to these changes as evidence.

The analysis of this table would seem to indicate that there probably is a relationship between changes in the proportions engaged in manufacturing and changes in the proportion of foreign-born. The relationship is not close enough, however, to operate positively for all small changes and only in the large changes does it appear at all clearly.

A question as to the cause or causes of decline in percentage of gainfully employed engaged in manufacturing in what are apparently manufacturing towns may well be raised. In the cases of Buckland, Shelburne and Wales the answer is rather simple. They are all manufacturing towns which were unclassified as to trend in total population and both total population and manufacturing population were declining throughout this period. The cause assigned for this loss in Chapter IV was the isolation of these towns and high mortality among their small plants due to fire and failure. The decrease in proportion of manufacturing population to total in the case of Holyoke is probably due to the fact that in 1875 the town had been founded but recently due to the rise of manufacturing plants around its recently developed water-power.

It had not, consequently, developed as yet any large proportion of the service activities and occupations such as government employment, stores, schools, hospitals, amusements and all the other agencies which go to make up the life of a well-rounded city. The city has developed since, to be somewhat of a shopping center for many of the surrounding towns. This would add to the population not directly interested in manufacturing and thus lower the proportion of gainfully-employed in that branch to the total population.

Relation of Size to Changes in the Proportion of Foreign-Born

Another interesting relationship appears in Table XXIV. Attention has already been called to the fact that a group of contiguous towns around Springfield, and including that center, have had general decreases in the proportion of foreign-born. This is especially noticeable in Figure XXV. It will be noted from Table XXIV that Springfield, Holyoke, Chicopee and Northampton are the leading towns in the region, ranking according to population in the order named. It will also be seen that each of these four has decreased in percentage of foreign-born to total population. Westfield and Greenfield are fifth and sixth, respectively, but each has experienced an increase in proportion of foreign-born. West Springfield is seventh with an increase and Easthampton is eighth with a decrease. Palmer and Ware, the ninth and tenth in rank, showed decreases. Thus, seven of the ten leading towns of the region have had decreases in the percentage of foreign-born and four of these seven were the first four in rank.

This tendency toward decrease in the proportion of foreign-born in cities is in line with the condition in the United States as a whole.

"As just pointed out, . . . there has been a steady and general decrease in the proportion of foreign-born in the principal cities of the country since 1860. Furthermore, . . . it is at least probable that this same decrease has occurred in urban districts as a whole. It should be observed, however, that this decrease has not taken place at a uniform rate. . . . There does not appear to be any general principal behind this unequal shrinkage of the urban foreign-born. . . ." [115]

[115] Carpenter, N., "*Immigrants and Their Children,* 1920," Census Monograph VII, p. 25.

As has already been indicated, there has been a considerable migration of the natives from the outlying towns to the cities of this region. This migration has been going on for a considerable time. It has also been indicated that the natives are leaving these more remote towns at an increasing rate. This is shown by the fact that, although the curves for population in the Ashfield type towns show a *steady* decline, the increased number of foreign-born in these towns indicates an *increased rate* of emigration by the natives. This increased rate of influx of natives, combined with the fact that children born of foreign parents in these towns are classed as "native," probably accounts in large measure for this trend.

The decline of immigration through the war years which had immediately preceded the last census period undoubtedly also affected this relationship. The increase in manufactures due to war demands together with a stoppage of foreign immigration forced the manufacturing cities to draw even more forcefully on the outlying districts for their labor supply.

It is to be regretted that a more positive causal relationship between physical factors and the growth or decline of proportion of immigrant population in this region could not be made. The complexity of the problem as it applies to the larger population groupings is too great to allow the isolation of any single factor. As Carpenter says in discussing the lack of postive correlation in a study of the causes of territorial distribution of immigrants in the United States,

> "The probable reason for this negative result has been given. It is the multiplicity of causal factors at work in the territorial distribution of immigrants. Some of these causes make themselves apparent in the present study; others are incapable of establishment by statistical means; still others, undoubtedly, have thus far escaped observation altogether. In view of this diversity and obscurity, it is not to be expected that the computation undertaken here could eventuate differently. The result that has been obtained is, however, of some value in that it is so nearly negative. *As yet it is impossible to assign any single factor or group of factors as the primary force in the distribution of the foreign stock in this country*" (the italics are his).[116]

[116] Ibid., *op. cit.*, p. 40.

Changes in the Distribution of the "Old" and "New" Immigration

So much has been written in recent years about the distinction between the "old" and the "new" immigration that Figures XXVI to XXIX have been constructed to show the changes in the distribution of these two groups in this region between 1875 and 1920. The two classes have been differentiated by Commons as follows:

> "A line drawn across the continent of Europe from northeast to southwest, separating the Scandinavian Peninsula, the British Isles, Germany and France from Russia, Austria-Hungry, Italy and Turkey, separates countries not only of distinct races but of distinct civilizations." [117]

The races of northwestern Europe are designated as the "old" immigration because they have been the largest contributors to the population of the country throughout its history. The races of central, southern and southeastern Europe have been called the "new" immigration because of real or theoretical differences between them and the older stock, and have been coming to the United States in large numbers only since about 1880.

Figures XXVI to XXIX have been constructed by totalling, for each town, the numbers of German, English, Irish, Scotch, Norwegian and Swedes and Canadians for the "old" and the numbers of Austrians, Greeks, Italians, Lithuanians, Russians, Poles, Finns, and Portuguese for the "new." The Canadians have been classed with the "old" immigration because they originate almost entirely from northwestern European stock.

Figures XXVI and XXVII show the distribution of the "old" immigration in 1875 and 1920. The two maps do not show a very marked change in the general distribution of these immigrants. There is a somewhat greater concentration of this type in the growing manufacturing towns in 1920 than in 1875. There has also been a noticeable abandonment of the tobacco and onion towns of the Hadley Type by 1920 but the distribution throughout the hill towns seems to be about the same as in 1875.

Figures XXVIII and XXIX show the justification for applying the name "new" to the type of immigration originating in south-

[117] Commons, J. R., "*Races and Immigrants in America*," p. 69.

FIG. XXVI. Distribution of the "Old" Immigration, 1875. (Dots are distributed evenly throughout each town. They do not show exact locations within town.)

FIG. XXVII. Distribution of the "Old" Immigration, 1920. (Dots are distributed evenly throughout each town. They do not show exact locations within town.)

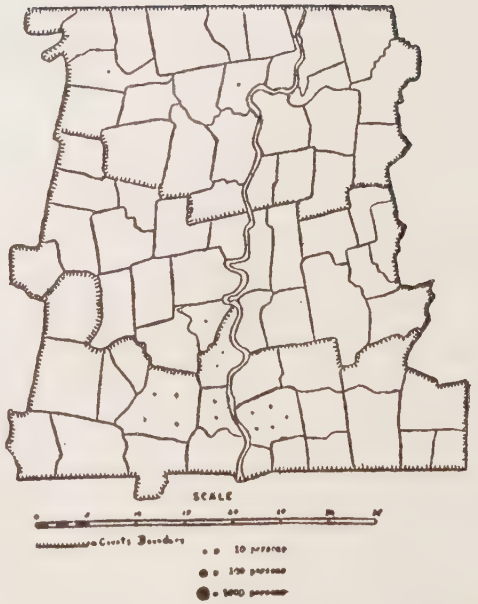

FIG. XXVIII. Distribution of the "New" Immigration, 1875. (Dots are distributed evenly throughout each town. They do not show exact locations within town.)

FIG. XXIX. Distribution of the "New" Immigration, 1920. (Dots are distributed evenly throughout each town. They do not show exact locations within town.)

ern and eastern Europe. As the former figure shows, it was practically absent in 1875. There were then only a few representatives of this group in the already populous towns around Springfield, and in Greenfield and Charlemont along the line of the new "Troy and Greenfield" Railroad. By 1920, however, they were immensely increased in numbers and much more widely distributed. Like the "old" immigration, this group had concentrated very largely in the larger manufacturing towns, but unlike that group, were very heavily represented in the tobacco and onion towns of the Hadley Type. They have also become surprisingly widely scattered among the declining hill towns. This is contrary to the generally accepted belief that the "new" immigrants tend to settle in cities to a larger extent than the "old."

In both of the maps for 1920 the effect of the lowlands and transportation routes along the main lines of drainage is noticeable. It will be seen, however, that within the Connecticut Valley Lowland, the "new" immigration is more evenly distributed than the "old." It is evident that, while both classes are concentrating in the Lowland where most of the opportunities are, the newer immigration is taking advantage of the agricultural opportunities of the Lowland to a much greater extent than the "old." It is undoubtedly from this class that the increases in the foreign-born in agriculture are coming. It will be noticed that the towns farthest from the Lowland have not been entered in large numbers by these foreigners but, when it is considered that most of this newer immigration has arrived since 1890, the extent to which they have penetrated the hills is surprising.

The distribution of the foreign-born will be seen to follow very closely the distribution of the total population. Only in the agricultural portions of the region is there any considerable growth of immigrant population which is more rapid than growth in total population.

CHAPTER VII

CONCLUSIONS

It will be seen from the chapters preceding that differences in topography and soil have had direct and marked influence on population changes in this region.

Growth in population over any long period of time has taken place only within the valleys of the Connecticut River and its tributaries. Such growth has been especially marked at points such as Springfield and Greenfield where tributary valleys joined the main valley. These lesser valleys have controlled the locations of east-west routes across a country where the "grain" of the topography runs generally north and south. This junction position has made these points not only focal points for trade, but, because of advantageous transportation location, also important as manufacturing centers. This growth in manufacturing has been aided by the fact that the larger water-powers of the region are located either on the Connecticut near these points or on the tributaries near their junction with that river.

The history of the Uplands is an interesting example of the working of the law of rent. Until population had expanded west of the Appalachians, this country, in spite of its poor soil and rough topography, was relatively densely populated. With the opening of the better lands in the West, these became "no-rent lands" and population left the hill towns for easier conditions in the West. With the coming of the railroads in the forties of the last century, western staples could be brought to eastern markets more cheaply than they could be raised in the stony uplands. This gave added impetus to the emigration from these hill towns. Manufacturing, which was the principal occupation of the Lowland towns, could not be carried on here because the rough topography restricted railroad lines to the main drainage channels and thus shut off this portion of the region from markets, raw material and coal. The growth of the valley manufacturing towns offered

added opportunities to the younger people of the hill regions and increased the drain on their population.

The history of population changes in these Upland towns is also interesting as an example of the working of the general principle that each improvement in transportation tends to increase the disadvantage of the less favorably situated areas. The introduction of the railroad, the electric trolley-car and the automobile merely served to emphasize the handicaps, as these facilities were also largely confined to the valleys and increased the advantages of valley location.

There is an apparent tendency for manufacturing to decline on the edges of this hill region and to confine itself to an increasing extent to the main valley.

There has been a very definite shift from agriculture to manufacturing as the chief occupation of the people. Between 1820 and 1875, the number of people engaged in agriculture declined everywhere except in the neighborhood of local markets in the manufacturing towns. As has been pointed out before, this was largely due to western competition. Between 1875 and 1925, there was a further decline in all towns except five. These towns, located in the northern part of the main valley, have extensive areas of rich alluvial soil in the flood-plains and on the terraces bordering the Connecticut. Their conditions have been found to be admirably suited to the intensive production of fine tobacco and onions. Population in these towns has shown a variation in accordance with the prosperity of these two main lines of production as shown by the fact that, after a consistent growth since the earliest date, it declined during the slump in tobacco prices between 1867 and 1890 and turned upward again with the return to prosperity in tobacco and the rise of the onion crop.

Manufacturing, although declining throughout the hill regions, increased tremendously in the main valley and in the lower parts of the tributary valleys because of transportation and power advantages mentioned above.

The proportion of foreign white in the population of the region increased slightly from 1875 to 1920. This increase while the United States as a whole was experiencing a decline was probably due to the more rapid rate of growth of manufactures in this region

than in the country as a whole and to the fact that the relatively cheap land of this region has attracted recent immigrants to agriculture to a surprising extent.

There has been a considerable increase in the number and proportion of immigrants in the agricultural towns. In the five foremost agricultural towns the large amount of hand labor needed in the onion and tobacco industries, and the opportunities for substantial profit from farming on shares, have attracted them in considerable numbers. The immigrant seems to be displacing the Yankee in the declining hill towns because his low standard of living and willingness to endure hard physical labor bring these lands " inside the margin " to him.

The manufacturing towns show a variety of changes in the proportion of the foreign-born. There seems to be some slight relation between changes in the proportion of gainfully-employed in manufacturing and in the proportion of foreign-born. It appears that increases in proportion employed in manufacturing and increases in proportion of foreign-born are apt to be coincident and vice versa. The relationship is not clear and definite, however. There also appears a tendency for the proportion of foreign-born to decline in the largest cities of the region and to increase in the medium-sized ones.

There has been a notable increase in the number and proportion of the races making up what is known as the " new " immigration. These have, contrary to the common belief, distributed themselves rather widely throughout the region and are especially more apt to be found in the agricultural towns than are the people of the " old " immigration. Both of these types are found in larger numbers in the Connecticut Valley, but both have also distributed themselves well over the Uplands, especially when it is borne in mind that these Uplands are declining in total population.

It is commonly supposed that the " new " immigration does not go into agriculture or into rural areas. In a recent census study one of the writers made the observation that this was probably due more to lack of opportunities for obtaining cheap land than to lack of interest in agriculture. He indicated that perhaps the East with declining prices for poorer farm land would see a revival

of the entrance of immigrants into agriculture. In Hampden, Hampshire and Franklin Counties, Massachusetts, there is a great deal of cheap land available in the hilly townships. These are the regions of "abandonment." Population is declining, land in farms is declining, but the number and percentage of recent immigrants are increasing. This would seem to indicate that cheap land, even if it is poor, is still attractive to the immigrant.

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APPENDIX

APPENDIX

TABLE I

INDEX NUMBERS OF POPULATION—UNITED STATES AND NEW ENGLAND, 1790–1925

1926 = 100

	United States	*New England*
1790	3	13
1800	4	15
1810	6	18
1820	9	22
1830	11	24
1840	15	28
1850	20	34
1860	27	39
1870	34	44
1880	43	50
1890	55	59
1900	66	70
1910	80	82
1920	92	93
1925	100	100

TABLE II

INDEX NUMBERS OF POPULATION—HAMPDEN, HAMPSHIRE AND FRANKLIN COUNTIES, 1790–1925

1925 = 100

	Hampden County	*Hampshire County*	*Franklin County*	*Summary*
1790	6	25	44	13
1800	7	30	53	16
1810	7	33	55	17
1820	9	35	59	19
1830	10	40	60	20
1840	11	41	58	22
1850	16	48	62	26
1855	17	47	64	27
1860	18	50	63	28
1865	20	52	63	30
1870	24	59	66	34
1875	29	60	68	38
1880	32	63	73	42
1885	36	65	76	45
1890	41	69	78	50
1900	47	73	81	55
1905	54	78	83	61
1910	60	83	87	67
1915	71	84	88	75
1920	80	93	97	84
1925	100	100	100	100

TABLE III

INDEX NUMBERS OF POPULATION—SPRINGFIELD TYPE TOWNS, 1790–1925

1925 = 100

	Agawam	*Chicopee*	*East Longmeadow*	*Greenfield*	*Longmeadow*	*Ludlow*	*Springfield*	*Westfield*	*West Springfield*
1790	—	—	—	10	22	6	1	11	15
1800	—	—	—	8	29	7	2	11	18
1810	—	—	—	8	31	8	2	11	20
1820	—	—	—	9	35	14	3	14	21
1830	—	—	—	10	38	15	5	15	21
1840	—	—	—	12	38	14	8	18	24
1850	—	20	—	17	38	13	8	22	19
1855	25	18	—	19	40	14	10	24	14
1860	27	17	—	21	41	13	11	26	14
1865	26	18	—	21	44	14	16	29	14
1870	32	23	—	24	40	13	19	34	17
1875	36	25	—	23	44	14	22	44	24
1880	35	27	—	26	42	17	23	39	27
1885	37	27	—	32	50	19	26	46	29
1890	37	34	—	34	65	22	31	51	33
1895	38	39	51	41	19	29	36	55	40
1900	40	46	38	52	24	40	44	64	46
1905	44	48	42	60	29	44	52	70	53
1910	57	61	50	68	33	56	63	83	60
1915	72	72	62	83	53	71	72	95	74
1920	80	86	75	101	79	85	91	96	88
1925	100	100	100	100	100	100	100	100	100

Summary

1790 3	1860 15	1900 46
1800 4	1865 18	1905 52
1810 4	1870 21	1910 63
1820 5	1875 24	1915 74
1830 6	1880 26	1920 93
1840 9	1885 29	1925 100
1850 13	1890 33	
1855 14	1895 38	

TABLE IV

INDEX NUMBERS OF POPULATION—NORTHAMPTON TYPE TOWNS, 1790–1925
1925 = 100

	Amherst	*East-hampton*	*Erving*	*Hol-yoke* (1)	*Hun-tington*	*Mon-son*	*Mon-tague*
1790	21	4	—	—	48	26	11
1800	23	5	—	—	62	32	15
1810	25	6	12	—	63	33	12
1820	32	6	25	—	55	42	13
1830	44	6	37	—	52	44	14
1840	43	6	23	—	49	42	16
1850	51	12	34	5	49	56	19
1855	49	12	35	8	76	58	19
1860	54	17	40	8	79	62	20
1865	57	25	43	9	75	64	20
1870	68	31	43	18	75	63	28
1875	66	34	60	27	71	73	42
1880	72	36	65	36	80	74	61
1885	70	37	65	46	82	78	71
1890	76	38	73	59	90	72	79
1895	80	41	72	67	94	74	76
1900	84	48	73	76	96	67	77
1905	89	59	82	83	94	95	88
1910	86	74	86	96	95	93	86
1915	93	85	87	101	92	98	99
1920	93	97	97	100	92	95	96
1925	100	100	100	100	100	100	100

	North-ampton	*Palmer*	*Russell*	*South Hadley*	*Ware*	*Wilbra-ham* (1)	*Sum-mary*
1790	7	7	—	11	9	55	9
1800	9	9	31	12	12	62	12
1810	11	10	30	14	12	62	13
1820	12	11	35	16	13	70	16
1830	15	11	36	18	24	72	19
1840	16	19	68	22	22	66	21
1850	22	36	37	38	44	75	30
1855	24	36	48	31	41	72	30
1860	28	37	43	34	42	73	34
1865	33	28	44	32	39	75	36
1870	42	33	45	43	49	82	43
1875	46	41	46	51	48	91	48
1880	50	50	59	54	56	57	53
1885	53	54	61	60	70	61	57
1890	62	59	63	64	85	64	63
1895	69	62	61	67	89	61	67
1900	77	71	57	68	96	56	73
1905	83	70	75	76	100	60	79
1910	80	78	69	74	102	82	82
1915	90	86	79	78	108	89	90
1920	91	90	88	84	99	98	92
1925	100	100	100	100	100	100	100

(1) Not included in summary because of boundary changes.

TABLE V

INDEX NUMBERS OF POPULATION—HADLEY TYPE TOWNS, 1790–1925
1925 = 100

	Hadley	*Hatfield*	*Sunderland*	*Whately*	*Deerfield*	*Summary*
1790	31	26	36	60	45	34
1800	37	30	42	63	52	39
1810	43	30	43	72	57	43
1820	51	30	46	88	63	49
1830	58	33	52	90	67	54
1840	63	35	56	87	64	56
1850	69	40	61	90	82	61
1855	67	43	65	86	93	61
1860	73	49	65	86	104	66
1865	78	52	67	82	102	68
1870	80	59	64	87	122	71
1875	74	59	67	78	115	68
1880	67	55	59	87	119	65
1885	60	51	54	81	102	59
1890	58	46	51	63	98	54
1895	59	47	54	61	101	55
1900	62	56	60	63	66	60
1905	66	66	71	67	71	67
1910	69	74	81	69	74	73
1915	92	97	99	91	92	95
1920	96	98	100	100	94	98
1925	100	100	100	100	100	100

TABLE VI

INDEX NUMBERS OF POPULATION—ASHFIELD TYPE TOWNS, 1790–1925
1925 = 100

	Ashfield	*Blandford*	*Brimfield*	*Chesterfield*	*Cummington*	*Goshen*	*Granville*	*Greenwich*
1790	159	324	144	266	172	271	325	232
1800	189	407	165	297	194	288	379	324
1810	197	369	158	316	199	260	247	272
1820	190	347	192	325	209	252	270	173
1830	188	364	190	318	248	246	271	181
1840	175	327	169	254	244	222	232	183
1850	152	324	169	228	231	204	214	186
1855	146	291	160	213	198	188	216	178
1860	142	287	162	202	214	175	227	155
1865	133	249	157	180	193	164	224	144
1870	128	235	153	182	204	147	212	148
1875	129	221	143	168	180	139	204	135
1880	116	224	143	173	173	130	198	141
1885	119	218	135	157	158	134	196	118
1890	112	199	130	137	155	118	174	117
1895	110	194	115	132	148	121	165	107
1900	104	191	112	137	147	126	172	109
1905	104	171	106	127	146	110	142	106
1910	104	164	103	120	125	111	128	100
1915	108	143	111	126	130	115	129	95
1920	95	110	93	99	96	89	108	89
1925	100	100	100	100	100	100	100	100

TABLE VI (*Continued*)

	Hawley	*Heath*	*Holland*	*Leyden*	*Middlefield*	*Montgomery*	*New Salem*	*Pelham*	*Plainfield*
1790	152	127	304	366	273	235	297	200	162
1800	248	203	316	406	393	293	376	220	283
1810	291	308	298	374	369	312	406	228	346
1820	308	377	321	361	339	316	413	246	332
1830	293	402	321	295	323	303	364	174	349
1840	276	300	300	234	770	387	251	184	323
1850	249	269	318	265	330	206	241	189	289
1855	219	249	278	242	304	216	235	152	231
1860	190	222	297	224	335	194	184	144	227
1865	194	215	261	219	326	185	215	142	205
1870	190	206	244	192	326	166	190	130	185
1875	166	183	237	194	270	159	178	122	171
1880	167	188	214	188	291	159	167	118	162
1885	154	191	162	166	230	146	160	106	161
1890	145	169	143	151	204	139	165	94	154
1895	132	160	141	134	173	144	167	94	160
1900	121	149	120	140	184	143	155	89	143
1905	127	119	107	151	179	136	129	89	135
1910	120	116	103	134	159	114	123	90	144
1915	121	129	113	127	146	120	120	96	133
1920	110	109	109	122	126	120	99	97	118
1925	100	100	100	100	100	100	100	100	100

	Prescott	*Rowe*	*Shutesbury*	*Tolland*	*Warwick*	*Wendell*	*Westhampton*	*Worthington*	*Summary*
1790	—	152	324	—	343	131	203	260	216
1800	—	197	447	—	339	186	224	285	258
1810	—	287	451	532	337	248	235	324	274
1820	—	291	495	461	345	241	266	297	276
1830	330	245	474	482	316	220	272	275	274
1840	339	241	475	418	294	220	225	279	250
1850	320	226	438	396	280	232	179	264	235
1855	280	206	451	402	275	186	199	259	218
1860	266	212	384	397	256	177	180	243	208
1865	259	193	379	341	248	152	189	216	198
1870	235	199	295	339	211	136	174	200	187
1875	214	226	269	301	204	127	165	191	175
1880	200	172	254	301	196	117	167	177	169
1885	195	199	233	281	182	128	161	177	161
1890	163	185	218	262	155	127	142	166	149
1895	174	171	213	206	165	133	141	151	143
1900	165	188	184	183	170	124	139	157	140
1905	140	183	180	183	145	121	138	143	131
1910	139	156	128	120	131	126	126	133	122
1915	130	145	140	133	131	98	128	144	122
1920	103	114	116	128	90	87	91	95	101
1925	100	100	100	100	100	100	100	100	100

TABLE VII

INDEX NUMBERS OF POPULATION—UNCLASSIFIED TOWNS, 1790–1925

1925 = 100

	Belchertown	*Bernardston*	*Buckland*	*Charlemont*	*Chester*	*Colrain*	*Conway*	*Enfield*	*Gill*	*Granby*
1790	51	82	46	81	74	91	225	—	—	74
1800	65	92	67	107	102	129	216	—	76	97
1810	78	96	71	120	101	129	192	—	83	105
1820	84	108	67	132	101	126	183	117	87	132
1830	86	109	67	130	93	120	168	141	94	131
1840	88	117	70	137	108	126	151	130	87	120
1850	92	111	68	143	100	114	197	138	82	136
1855	93	108	104	136	83	103	192	138	80	124
1860	93	115	109	131	87	115	181	137	174	112
1865	91	107	124	121	84	110	165	133	69	112
1870	84	114	125	123	83	112	157	137	71	107
1875	80	117	124	125	92	109	156	142	73	100
1880	81	111	112	114	97	114	189	139	80	93
1885	79	110	113	117	87	103	169	135	94	90
1890	73	91	101	119	86	107	156	127	105	94
1895	74	92	100	127	94	103	140	132	118	92
1900	79	94	93	133	96	112	157	138	111	94
1905	72	91	96	122	90	114	144	130	111	92
1910	71	88	101	122	91	111	132	117	103	94
1915	71	94	101	119	89	117	131	108	104	102
1920	71	91	92	99	86	103	103	105	96	96
1925	100	100	100	100	100	100	100	100	100	100

	Hampden	*Leverett*	*Monroe*	*Northfield*	*Orange*	*Shelburne*	*Southampton*	*Southwick*	*Wales*	*Williamsburg*
1790	—	79	—	48	15	77	91	66	140	53
1800	—	107	—	57	15	70	107	68	178	59
1810	—	116	—	67	15	63	128	97	149	56
1820	—	129	—	87	16	66	127	99	157	55
1830	—	141	185	97	17	65	136	107	153	62
1840	—	132	197	92	29	66	126	96	158	66
1850	—	143	178	97	33	81	116	88	164	77
1855	—	148	152	107	34	91	130	89	164	92
1860	—	145	165	94	32	94	123	94	156	105
1865	—	138	134	91	37	102	133	91	160	99
1870	—	132	141	94	41	103	127	87	191	108
1875	—	125	133	90	49	103	115	88	235	102
1880	152	112	116	88	62	105	114	87	237	112
1885	137	117	123	94	71	105	112	78	197	103
1890	131	106	197	103	89	101	111	72	161	103
1895	118	112	208	102	104	101	115	76	180	98
1900	124	112	213	108	107	98	110	82	178	97
1905	89	106	188	111	109	99	101	83	149	97
1910	102	110	172	90	103	97	95	81	79	107
1915	106	117	207	98	105	96	104	108	78	106
1920	99	105	121	97	105	93	89	94	97	94
1925	100	100	100	100	100	100	100	100	100	100

TABLE VIII

NUMBERS ENGAGED IN AGRICULTURE AND MANUFACTURING IN 1820, 1875, 1920

	Agriculture			*Manufacturing*		
			Hampden County			
	1820	*1875*	*1920*	*1820*	*1875*	*1920*
Agawam (1)	—	406	365	—	309	1020
Blandford	354	273	103	34	34	47
Brimfield	349	279	146	143	93	72
Chester	288	212	81	46	125	177
Chicopee (2)	—	296	126	—	3332	11797
East Longmeadow (3)	—	—	112	—	—	450
Granville	312	289	189	43	93	65
Hampden (4)	—	160	138	—	137	34
Holland	126	72	36	8	33	14
Holyoke (1)	—	183	190	—	6291	18833
Longmeadow (3)	307	259	53	34	131	301
Ludlow	281	259	138	78	113	2711
Monson	434	387	213	204	721	975
Montgomery	140	88	70	5	9	16
Palmer	271	266	85	30	1200	2798
Russell	111	92	38	19	74	353
Southwick	305	318	298	22	41	91
Springfield (2)	334	501	295	509	5941	28180
Tolland	190	114	51	6	28	23
Wales	165	98	54	7	329	111
Westfield	518	521	372	121	1692	4298
West Springfield (1)	691	276	147	114	600	2639
Wilbraham (4)	509	394	125	7	408	787
			Hampshire County			
Amherst	362	457	417	128	338	701
Belchertown	593	522	442	137	147	230
Chesterfield	348	196	131	9	35	23
Cummington	226	210	84	62	72	40
Easthampton	151	209	173	26	1088	3946
Enfield	162	208	113	43	176	111
Goshen	160	116	64	9	10	8
Granby	287	240	188	18	31	53
Greenwich	153	131	62	35	54	17
Hadley	309	499	595	67	110	147
Hatfield	179	399	825	17	65	59
Huntington (5)	—	143	105	—	135	332
Middlefield	176	112	78	14	98	7
Northampton	449	521	356	218	2271	4750
Pelham	299	131	80	43	42	68
Plainfield	229	171	96	27	12	13
Prescott (6)	—	154	64	—	9	5
Southampton	262	298	203	32	50	85
South Hadley	241	248	179	57	700	1300
Ware	251	308	227	35	1240	2611
Westhampton	198	142	98	28	29	7
Williamsburg	247	197	144	46	382	389
Worthington	302	226	99	30	44	51

TABLE VIII (*Continued*)

	Agriculture			*Manufacturing*		
			Franklin County			
	1820	*1875*	*1920*	*1820*	*1875*	*1920*
Ashfield	378	307	181	64	50	54
Bernardston	157	180	116	60	108	60
Buckland	204	207	122	44	385	284
Charlemont	201	211	128	66	87	70
Colrain	404	402	250	55	174	331
Conway	317	289	184	77	188	93
Deerfield	319	618	431	117	258	276
Erving	66	55	19	3	173	376
Gill	151	174	123	21	55	135
Greenfield	171	258	202	116	457	3113
Hawley	216	167	114	30	24	10
Heath	213	158	106	42	14	3
Leverett	193	196	144	5	44	75
Leyden	113	126	95	35	18	4
Monroe (7)	—	57	15	—	3	42
Montague	234	234	161	17	629	2045
New Salem	428	228	83	2	66	48
Northfield	316	376	234	36	84	113
Orange	171	246	148	2	511	1350
Rowe	192	135	93	25	31	21
Shelburne	215	194	127	48	241	208
Shutesbury	213	169	62	3	18	15
Sunderland	105	234	307	42	34	15
Warwick	270	141	84	4	82	21
Wendell	202	135	80	—	27	33
Whately	168	281	286	96	46	42

(1) Agawam and Holyoke were included in West Springfield in 1820.
(2) Chicopee was included in Springfield in 1820.
(3) East Longmeadow was included in Longmeadow in 1820 and 1875.
(4) Hampden was included in Wilbraham in 1820.
(5) Huntington not generally recognized as a separate town until 1855.
(6) Prescott included in New Salem and Pelham in 1820.
(7) Monroe not established until 1822.

Note: The figures for 1820 are from U. S. Census of 1820, Table 6. The figures for 1875 are from the Census of the Commonwealth of Massachusetts of that year, Volume I, pages 461 to 464, and for 1920 from unpublished statistics kindly furnished by the U. S. Bureau of the Census.

TABLE IX

FOREIGN WHITE BY COUNTRY OF BIRTH—1875–1920

Hampden County

	Census	Total	Foreign White	%	Austria	Canada	England	Germany	Greece	Ireland	Italy	Lithuania, Russia, Poland, Finland	Portugal	Scotland	Sweden	All Other
Hampden County	1875	94,304	26,235	35	70	6,996	2,295	1,334	2	14,472	41	25	3	740	76	181
	1920	300,305	81,984	27	1,898	18,783	4,498	2,718	1,608	12,848	7,485	21,219	1,272	3,683	1,744	4,228
Agawam	1875	2,248	584	26	—	236	38	9	—	287	1	—	—	3	6	4
	1920	5,023	1,151	25	29	219	61	19	1	95	485	108	2	17	39	76
Blandford	1875	964	34	4	—	3	7	—	—	14	—	—	—	—	9	1
	1920	479	30	6	1	12	—	2	—	2	2	2	—	—	3	2
Brimfield	1875	1,201	105	9	—	34	5	—	—	63	—	—	—	2	—	1
	1920	778	58	7	—	24	—	3	1	17	2	1	—	9	—	1
Chester	1875	1,396	151	11	—	53	10	3	—	82	—	—	1	1	—	1
	1920	1,302	206	16	5	25	17	3	—	8	41	3	3	3	3	95
Chicopee	1875	10,335	3,624	35	—	994	302	50	—	2,206	—	—	1	51	—	20
	1920	36,214	12,182	33	476	3,759	445	195	347	1,044	99	5,047	164	284	51	271
East Longmeadow	1875	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1920	2,352	554	24	8	115	30	24	7	23	173	7	3	25	109	30
Granville	1875	1,240	109	9	—	2	6	3	—	83	—	—	—	1	1	13
	1920	655	109	17	1	19	8	8	—	11	8	12	1	—	3	38
Hampden	1875	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1920	624	80	13	1	25	8	7	—	11	—	12	1	3	12	—
Holland	1875	334	14	4	—	11	2	—	—	1	—	—	—	—	—	—
	1920	153	12	8	—	6	2	—	—	1	—	3	—	—	—	—
Holyoke	1875	16,260	8,450	52	8	2,812	556	592	2	4,054	2	6	—	359	4	55
	1920	60,203	20,255	34	546	6,464	1,249	1,011	258	4,261	368	4,136	194	991	59	718
Longmeadow	1875	1,467	248	17	—	50	20	13	—	164	—	4	—	6	8	1
	1920	2,618	349	13	18	81	50	27	1	57	24	18	—	12	32	29
Ludlow	1875	1,222	208	17	—	108	15	3	—	57	—	—	—	20	—	5
	1920	7,470	3,249	43	6	462	44	16	—	63	180	922	812	690	5	49
Monson	1875	3,733	555	15	—	69	72	16	—	377	—	—	—	12	2	7
	1920	4,826	829	17	16	177	76	15	1	167	123	93	2	30	43	51

TABLE IX (*Continued*)

Hampden County (Continued)

Montgomery	1875	304	8	3	—	1	1	—	—	5	—	—	—	—	1	—
	1920	229	14	6	—	4	1	—	—	1	2	3	—	1	—	2
Palmer	1875	4,572	1,380	30	—	406	125	19	—	735	1	—	—	88	2	4
	1920	9,896	2,722	28	3	510	125	13	12	260	97	1,480	32	63	42	85
Russell	1875	643	119	18	—	11	10	1	—	95	—	—	—	2	—	—
	1920	1,237	256	21	—	43	21	6	1	19	40	98	—	23	2	3
Southwick	1875	1,114	76	7	—	6	16	—	—	47	—	—	—	—	5	2
	1920	1,194	243	20	15	5	9	1	—	12	87	58	—	—	34	22
Springfield	1875	31,053	7,713	25	11	1,727	641	440	—	4,559	32	11	—	123	19	150
	1920	129,614	31,250	24	410	5,797	1,947	1,152	939	5,600	4,491	6,404	29	1,309	1,221	1,951
Tolland	1875	452	48	11	—	—	2	5	—	35	—	—	—	5	—	1
	1920	192	41	21	—	5	—	5	—	2	16	8	—	—	1	4
Wales	1875	1,020	283	27	—	40	45	—	—	192	—	1	—	4	1	—
	1920	419	76	18	—	32	10	2	—	6	8	3	—	1	2	12
West Springfield	1875	3,739	839	22	18	186	70	20	—	494	—	—	—	39	1	11
	1920	13,443	2,880	21	88	606	184	75	15	425	862	293	1	114	37	180
Westfield	1875	8,431	1,481	18	33	196	321	148	—	713	5	3	1	13	17	31
	1920	18,604	4,543	25	273	352	202	94	24	703	343	1,797	25	95	43	592
Wilbraham	1875	2,576	337	13	—	51	31	12	—	227	2	2	2	9	—	7
	1920	2,780	895	32	2	41	9	5	1	60	30	711	3	13	3	17

Hampshire County

Hampshire County	1875	44,821	8,585	19	16	2,026	732	641	—	4,748	2	4	3	275	17	121
	1920	69,599	16,122	23	206	3,944	943	646	77	2,185	443	6,528	47	447	132	524
Amherst	1875	3,937	316	8	—	28	18	4	—	214	—	—	—	9	3	40
	1920	5,550	696	13	4	112	52	14	13	124	34	257	—	37	20	29
Belchertown	1875	2,315	196	8	—	21	5	—	—	161	—	—	—	6	1	2
	1920	2,058	339	16	10	61	16	20	—	54	1	156	—	5	4	12
Chesterfield	1875	746	34	5	—	25	1	—	—	8	—	—	—	—	—	—
	1920	441	37	8	4	17	2	—	—	2	—	8	—	2	—	2
Cummington	1875	916	44	5	—	20	2	1	—	15	—	—	—	4	—	—
	1920	489	25	5	—	8	8	2	—	2	—	2	—	2	—	1
Easthampton	1875	3,972	1,165	29	14	164	109	186	—	597	—	—	—	88	—	7
	1920	11,261	3,459	31	46	786	254	201	12	231	34	1,722	6	88	16	62
Enfield	1875	1,065	184	17	—	15	14	13	—	137	—	—	—	3	2	—
	1920	790	123	16	—	17	14	—	—	65	—	23	—	2	1	1

TABLE IX (*Continued*)
Hampshire County (*Continued*)

	Census	*Total*	*Foreign White*	%	*Austria*	*Canada*	*England*	*Germany*	*Greece*	*Ireland*	*Italy*	*Lithuania, Russia, Poland, Finland*	*Portugal*	*Scotland*	*Sweden*	*All Other*
Goshen	1875	349	9	3	—	2	3	1	—	2	—	—	—	1	—	—
	1920	224	8	4	—	2	—	—	—	1	—	1	—	—	2	2
Granby	1875	812	77	9	1	13	3	2	—	49	—	—	—	4	—	5
	1920	779	137	18	7	57	4	7	1	11	—	36	3	3	2	6
Greenwich	1875	606	11	2	—	8	—	—	—	3	—	—	—	—	—	—
	1920	399	37	9	1	16	5	2	—	7	—	5	—	—	—	1
Hadley	1875	2,125	412	19	—	156	11	5	—	234	—	—	1	—	2	3
	1920	2,784	816	29	20	15	9	9	—	47	4	704	4	2	1	1
Hatfield	1875	1,600	386	24	—	119	19	94	—	146	—	—	—	—	2	6
	1920	2,651	814	31	1	24	2	48	—	29	1	601	2	2	1	103
Huntington	1875	1,095	146	13	—	47	4	3	—	83	1	—	—	5	—	3
	1920	1,425	154	11	1	94	10	2	4	22	4	11	—	5	—	1
Middlefield	1875	603	113	19	—	64	7	12	—	28	—	—	—	—	1	1
	1920	280	39	14	1	16	1	1	—	2	3	6	—	1	3	5
Northampton	1875	11,108	2,817	25	—	555	317	129	—	1,712	1	4	2	61	5	31
	1920	21,951	4,945	23	46	1,118	311	188	28	1,149	340	1,406	8	80	64	206
Pelham	1875	633	22	3	—	8	10	—	—	4	—	—	—	—	—	—
	1920	503	39	8	1	18	9	4	—	1	—	5	—	—	—	1
Plainfield	1875	481	4	1	—	—	—	1	—	3	—	—	—	—	—	—
	1920	332	20	6	—	17	2	—	—	—	1	—	—	—	—	—
Prescott	1875	493	8	2	—	5	2	—	—	1	—	—	—	—	—	—
	1920	236	7	3	—	2	2	—	—	—	—	—	—	1	1	1
South Hadley	1875	3,370	684	20	1	123	59	155	—	298	—	—	—	30	1	17
	1920	5,527	1,393	25	62	434	144	113	—	165	18	223	1	182	4	47
Southington	1875	1,050	104	10	—	21	5	3	—	74	—	—	—	1	—	—
	1920	814	158	19	—	16	4	16	—	5	—	91	—	3	4	19
Ware	1875	4,142	1,392	34	—	549	114	17	—	648	—	—	—	55	—	9
	1920	8,525	2,566	30	2	1,027	75	13	6	226	1	1,137	23	28	6	22
Westhampton	1875	556	49	9	—	7	6	1	—	34	—	—	—	1	—	—
	1920	305	24	8	—	11	—	—	—	4	—	9	—	—	6	—
Williamsburg	1875	2,029	401	20	—	69	23	14	—	289	—	—	—	6	—	—
	1920	1,866	266	14	—	74	11	6	13	35	2	119	—	1	3	2
Worthington	1875	818	16	2	—	7	—	—	—	8	—	—	—	1	—	—
	1920	409	20	5	—	2	7	—	—	3	—	5	—	3	—	—

TABLE IX (*Continued*)

Franklin County

Franklin County.....	1875	33,696	3,990	12	3	786	497	767	—	1,779	7	6	—	73	12	60
	1920	49,361	8,131	16	487	1,653	580	522	67	663	378	2,926	7	143	389	316
Ashfield.....	1875	1,190	28	2	—	9	2	4	—	4	—	—	—	3	4	2
	1920	869	64	7	13	8	6	2	—	4	2	12	—	1	6	10
Bernardston.....	1875	991	23	2	—	10	9	—	—	4	—	—	—	—	—	—
	1920	769	56	7	2	17	3	3	—	6	3	11	—	7	1	3
Buckland.....	1875	1,921	517	27	—	25	174	128	—	180	—	—	—	5	—	5
	1920	1,433	211	15	7	26	79	40	—	14	4	6	1	1	25	8
Charlemont.....	1875	1,029	63	6	—	7	8	3	—	38	5	—	—	1	1	—
	1920	808	54	7	10	20	11	3	—	—	7	—	—	2	—	1
Colrain.....	1875	1,699	172	10	—	138	18	1	—	12	—	—	—	3	—	—
	1920	1,607	176	11	4	116	6	14	—	3	1	11	—	1	1	19
Conway.....	1875	1,452	192	13	—	47	33	5	—	92	—	—	—	9	1	5
	1920	961	95	10	14	27	6	11	—	8	—	21	—	1	1	6
Deerfield.....	1875	3,414	613	18	—	28	34	156	—	370	1	1	—	13	2	8
	1920	2,803	568	20	14	39	12	5	—	34	11	432	—	7	9	5
Erving.....	1875	794	95	12	—	33	3	—	—	56	—	—	—	2	1	—
	1920	1,295	210	16	3	49	20	7	—	27	3	86	1	13	1	—
Gill.....	1875	673	26	4	—	8	12	2	—	3	—	—	—	—	1	—
	1920	879	151	17	2	29	47	9	—	3	—	45	—	—	—	16
Greenfield.....	1875	3,540	543	15	—	82	74	112	—	243	—	5	—	15	2	10
	1920	15,462	2,555	17	76	583	127	203	62	292	180	820	1	59	39	113
Hawley.....	1875	588	8	1	—	5	1	—	—	2	—	—	—	—	—	—
	1920	390	45	12	1	38	—	5	—	—	1	—	—	—	—	—
Heath.....	1875	545	15	3	—	7	5	—	—	1	—	—	—	1	—	1
	1920	325	25	8	—	15	3	3	—	1	—	1	—	—	2	—
Leverett.....	1875	831	7	1	—	—	1	—	—	6	—	—	—	—	—	—
	1920	695	51	7	—	7	4	—	—	4	1	12	—	—	1	—

TABLE IX (*Continued*)
Franklin County (*Continued*)

	Census	Total	Foreign White	%	Austria	Canada	England	Germany	Greece	Ireland	Italy	Lithuania, Russia, Poland, Finland	Portugal	Scotland	Sweden	All Other
Leyden	1875	524	33	6	—	4	—	2	—	26	—	—	—	—	—	1
	1920	330	26	8	—	5	—	—	1	3	—	—	—	7	—	4
Monroe	1875	190	9	5	—	1	—	—	—	6	—	—	—	—	—	2
	1920	173	31	18	17	2	—	—	—	1	3	1	—	—	1	6
Montague	1875	3,380	910	27	3	235	42	278	—	338	1	—	—	5	—	8
	1920	7,675	1,872	24	237	412	97	160	1	164	50	686	2	19	11	33
New Salem	1875	923	11	1	—	3	6	—	—	1	—	—	—	—	—	1
	1920	512	35	7	2	11	6	—	—	1	1	1	—	2	5	6
Northfield	1875	1,641	116	7	—	10	1	1	—	101	—	—	—	1	—	2
	1920	1,775	212	12	1	42	22	10	—	24	7	68	—	10	9	19
Orange	1875	2,497	119	5	—	43	25	1	—	39	—	—	—	9	—	2
	1920	5,393	771	14	18	143	102	12	3	42	61	108	—	9	237	36
Rowe	1875	661	71	11	—	13	11	1	—	45	—	—	—	1	—	—
	1920	333	44	13	1	5	2	4	—	4	25	2	—	—	—	1
Shelburne	1875	1,590	142	9	—	23	21	54	—	41	—	—	—	2	—	1
	1920	1,436	94	7	1	31	13	18	—	6	6	9	—	1	4	5
Shutesbury	1875	558	17	3	—	3	5	—	—	—	—	—	—	1	—	8
	1920	242	52	21	—	1	2	2	—	—	10	23	—	—	12	2
Sunderland	1875	860	82	10	—	31	2	—	—	49	—	—	—	—	—	—
	1920	1,289	350	27	60	3	1	—	—	3	—	264	2	2	2	13
Warwick	1875	744	13	2	—	7	2	—	—	3	—	—	—	1	—	—
	1920	327	38	12	—	7	5	1	—	1	—	5	—	1	43	5
Wendell	1875	503	26	5	—	10	2	4	—	8	—	—	—	1	1	1
	1920	346	42	12	2	12	1	3	—	3	—	10	—	—	9	2
Whately	1875	958	139	14	—	4	6	15	—	111	—	—	—	—	—	3
	1920	1,234	303	25	2	5	5	1	—	15	2	270	—	—	—	3

TABLE X

LAND IN FARMS—VALUE OF LAND IN FARMS—AVERAGE VALUE PER ACRE, 1875 (1) and 1925 (2)

	1875			*1925*		
	Acres	*Value* (3)	*Average Value* (3) *Per Acre*	*Acres*	*Value* (3)	*Average Value* (3) *Per Acre*
Hampden County	316,016	$8,532,432	$ 27	201,607	$8,576,977	$ 42
Agawam	12,538	338,526	27	9,943	1,551,200	155
Blandford	27,440	286,700	11	15,197	219,950	15
Brimfield	19,048	264,825	14	16,728	293,475	17
Chester	19,740	177,660	9	16,300	154,450	10
Chicopee	12,831	590,226	46	3,250	399,000	133
East Longmeadow (4)	—	—	—	5,344	437,450	88
Granville	22,073	174,438	8	13,925	190,930	15
Hampden (5)	—	—	—	8,643	245,550	27
Holland	6,885	68,044	10	3,468	36,485	12
Holyoke	3,399	132,571	39	6,549	645,250	108
Longmeadow (6)	13,179	566,697	43	2,069	299,000	150
Ludlow	13,326	333,130	25	10,387	519,030	52
Monson	20,553	72,966	14	12,837	214,465	18
Montgomery	7,563	68,067	9	5,324	59,200	12
Palmer	17,216	361,536	21	11,224	237,075	26
Russell	8,261	83,349	9	4,787	67,200	13
Southwick	18,007	342,133	19	13,778	535,100	38
Springfield	15,863	2,311,861	147	2,917	425,300	142
Tolland	16,920	83,486	5	5,481	52,570	11
Wales	7,726	100,425	13	5,306	69,950	14
West Springfield	21,520	1,506,400	70	3,785	781,200	195
Westfield	8,100	283,500	35	15,598	734,047	49
Wilbraham (7)	23,828	500,388	21	8,767	350,100	39
Hampshire County	316,992	$6,656,832	21	251,647	$9,839,865	39
Amherst	15,055	632,310	42	14,121	1,082,000	77
Belchertown	27,354	164,124	16	24,636	657,915	26
Chesterfield	16,673	161,974	10	13,663	144,900	10
Cummington	13,711	163,034	12	11,816	124,400	10
Easthampton	6,613	363,715	55	6,048	474,300	79
Enfield	10,636	159,540	15	7,946	200,500	25
Goshen	9,651	105,808	11	7,793	112,400	14
Granby	16,591	381,593	23	13,030	513,455	39
Greenwich	11,589	126,513	11	5,262	81,150	16
Hadley	11,246	623,236	57	12,882	1,455,950	112
Hatfield	8,339	738,175	93	8,536	1,566,060	174
Huntington	13,334	146,674	11	9,396	124,300	14
Middlefield	13,436	98,002	7	9,985	95,550	10
Northampton	13,469	646,512	48	12,059	685,500	57
Pelham	15,207	123,994	8	5,396	122,525	25
Plainfield	11,961	100,248	9	10,659	125,500	12
Prescott	8,948	112,754	13	3,650	61,500	16
South Hadley	9,551	362,938	38	6,515	831,000	119
Southampton	17,128	274,048	16	13,185	432,400	33
Ware	16,148	145,332	19	13,710	353,100	25
Westhampton	15,817	197,095	13	9,626	147,960	15
Williamsburg	15,092	211,288	14	11,890	268,200	22
Worthington	19,638	189,694	10	19,843	179,300	9

TABLE X (*Continued*)

	1875			1925		
	Acres	*Value* (3)	*Average Value* (3) *Per Acre*	*Acres*	*Value* (3)	*Average Value* (3) *Per Acre*
Franklin County	350,443	$6,658,417	$19	278,440	$7,852,355	$ 28
Ashfield	21,894	280,451	13	23,714	435,300	18
Bernardston	12,610	239,590	19	10,574	181,415	16
Buckland	10,911	229,131	21	11,566	222,510	19
Charlemont	16,859	269,744	16	14,016	332,540	24
Colrain	23,096	300,248	13	25,919	319,700	12
Conway	23,380	374,080	16	16,776	298,200	18
Deerfield	17,308	794,120	47	16,111	1,375,650	86
Erving	4,491	67,365	15	2,837	42,100	14
Gill	8,489	289,604	36	8,698	213,425	24
Greenfield	11,326	498,344	44	10,192	562,625	56
Hawley	16,096	119,522	7	12,667	129,700	10
Heath	13,523	111,804	8	10,110	113,570	11
Leverett	10,385	176,345	17	8,458	174,650	22
Leyden	10,558	163,110	15	8,700	79,000	9
Monroe	6,556	32,730	5	2,409	16,005	8
Montague	14,786	399,222	27	9,529	406,950	41
New Salem	14,446	317,389	10	7,811	126,065	16
Northfield	18,776	525,728	28	12,243	423,840	35
Orange	13,603	285,663	21	12,775	344,610	27
Rowe	12,991	110,212	8	9,469	101,150	11
Shelburne	12,692	266,532	21	15,062	382,395	25
Shutesbury	11,709	94,541	8	3,982	63,925	16
Sunderland	7,666	290,727	37	6,420	935,630	156
Warwick	14,989	108,438	7	4,518	58,450	12
Wendell	8,648	55,604	7	5,507	80,950	14
Whately	12,658	330,875	30	8,377	432,000	54
Total Three Counties	983,551	$21,847,681	$22	631,694	$26,269,197	$42

(1) Figures for 1875 are from "Census of Mass.—1875," Vol. III, p. 639 et seq.

(2) Figures for 1925 are from unpublished statistics of the U. S. Census of agriculture—1925, supplied by the American Geographical Society.

(3) Values for 1875 were published in currency. They have been reduced to gold on the ratio of $1.25 currency to $1 gold. This is the ratio used by the Census of Massachusetts at that date for similar calculations.

(4) Included in Longmeadow in 1875.

(5) Included in Wilbraham in 1875.

(6) Includes East Longmeadow in 1875.

(7) Includes Hampden in 1875.

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